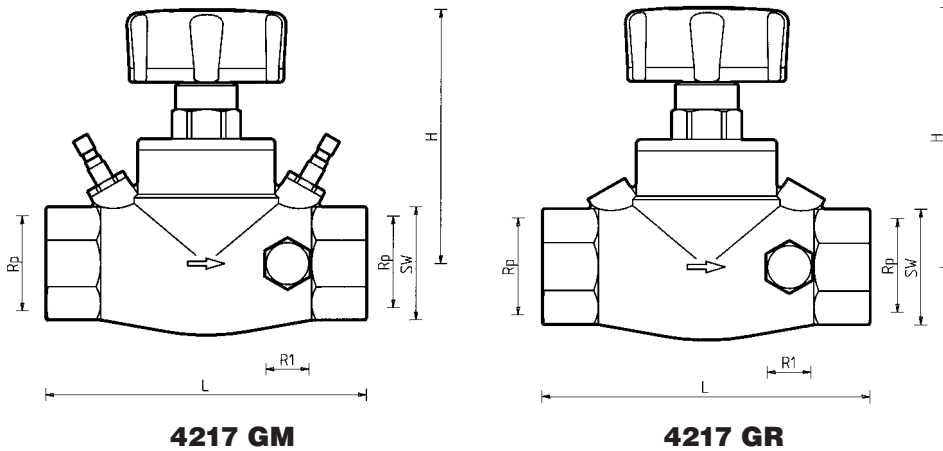


# STRÖMAX-GM/GR

## STRÖMAX-GM Circuit Control Valve with Measuring Valves STRÖMAX-GR Circuit Control Valve

Standard Sheet for  
**4217**  
Edition 1000 (0999)



**4217 GM**  
STRÖMAX-GM  
with Measuring Valves

**4217 GR**  
STRÖMAX-GR  
without Measuring Valves

Order Numbers		Rp	L	H	R1	Hexagon Key mm	Octagon Key mm	Dimensions in mm Order Numbers
4217 GM	4217 GR							
1 4217 01	1 4217 61	1/2"	100	97	1/4"	27	–	
1 4217 02	1 4217 62	3/4"	100	97	1/4"	32	–	
1 4217 03	1 4217 63	1"	120	107	1/4"	41	–	
1 4217 04	1 4217 64	1 1/4"	140	112	1/4"	–	50	
1 4217 05	1 4217 65	1 1/2"	150	112	1/4"	–	55	
1 4217 06	1 4217 66	2"	165	136	1/4"	–	70	
1 4217 07	1 4217 67	2 1/2"	190	138	3/8"	–	85	
1 4217 08	1 4217 68	3"	210	142	3/8"	–	100	

**4217 GM**    **STRÖMAX-GM Circuit Control Valve with Measuring Valves, 1/2"–3"**  
Screw down model, brass version, socket x socket, non-rising spindle, spindle seal by means of double-O-ring, presetting by limitation of valve lift by means of internal spindle; digital display of presetting step at the hand wheel window.  
2 Measuring valves are located adjacent to the hand wheel. 2 bore holes for draining fittings are closed with screw plugs (272).

**4217 GR**    **STRÖMAX-GR Circuit Control Valve, 1/2"–3"**  
Screw down model, brass version, socket x socket, non-rising spindle, spindle seal by means of double-O-ring, presetting by limitation of valve lift by means of internal spindle; digital display of presetting step at the hand wheel window.  
2 bore holes for draining fittings are closed with screw plugs (272).

**Models**  
**STRÖMAX-GM**  
  
**STRÖMAX-GR**

**4217 M**    **1/2"–3"**    STRÖMAX-M circuit control valve with measuring valves, inclined model

**4218 MFS**    **DN 50–DN 200**    STÖMAX-MFS circuit control valves with measuring vales, with flanges, inclined model

**4218 MF**    **DN 15–DN 200**    STRÖMAX-MF- circuit control valves with measuring valves, with flanges, screw-down model

**Other Models**  
Circuit control valves with measuring valves

2 Measuring Valves are located adjacent to the hand wheel at identical angles, sealed by the manufacturer. This arrangement permits optimum access and connection of measuring instruments in any position of installation.

**Measuring Valves**  
**STRÖMAX-GM**

Valves 1/2"–2": pipe threads 1/4"  
Valves 2 1/2"–3": pipe threads 3/8".

**Bore Sizes**  
  
We reserve the right to make modifications necessitated by technological progress.

<b>270</b>	<b>1/4"–3/8"</b>	Drain cock with handle
<b>272</b>	<b>1/4"–3/8"</b>	Screw plug, installed
<b>275</b>	<b>1/4"–3/8"</b>	Drain cock for hose connection

Draining fittings must be ordered separately.

## Draining Fittings

For hydraulic balancing in heating and cooling systems, adjustment of distribution mains, circuits, heat exchangers, heating and cooling registers, etc.

## Field of Application

Maximum operating temperature 110 °C  
Maximum operating pressure 10 bar

Hot water purity in accordance with Austrian standard ÖNORM H 5195 and/or VDI-guideline 2035.

## Operating Data

When using HERZ compression unions for copper and steel pipes, observe the permissible temperatures and pressures as per EN 1254-2:1998 specified in Table 5. A maximum operating temperature of 80 °C and maximum operating pressure of 4 bar applies for plastic pipe connections, if permitted by the pipe manufacturer.

## HERZ Compression Union

The sockets for the circuit control valves R = 1/2" and R = 3/4" are suitable for connecting either threaded pipes or calibrated soft-steel or copper pipes, the latter two by means of adapters and compression unions. Compression unions and adapters must be ordered separately.

## Pipe Connection by Means of Compression Unions

Pipe Ø D mm	10	12	14	15	16	18	18
Valve R =	1/2"						3/4"
Adapter Order No.	1 6272 01	1 6272 01	1 6272 01	1 6272 01	1 6272 01	1 6272 11	1 6272 12
Compr. Union Order No.	1 6284 00	1 6284 01	1 6284 03	1 6284 04	1 6284 05	1 6289 01	1 6289 01

For the installation of soft-steel or copper pipes with compression unions, we recommend the use of support sleeves. For perfect installation lubricate the thread of the locking nut (male or female thread) as well as the olive with silicone oil. Please consult our instructions for installation.

The circuit control valves R = 1/2" are suitable for systems with plastic pipes. Adapters and plastic pipe unions are connected to the sockets. For models and dimensions consult the HERZ catalogue.

## Plastic Pipe Connection

### Flow Direction

During installation, take into account the flow direction arrow on the valve body.

## Special Design Features

### Installation Position

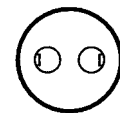
The non-rising valve spindle arranged perpendicular to the valve axis guarantees optimum accessibility and optimum valve operation in any installation position.

### Presetting

The current position of the flow restriction cone is shown on a clearly visible digital display on the front side of the hand wheel. The desired presetting step can be easily adjusted and secured by means of the covered presetting spindle located inside the valve. The preset circuit control valve can be shut off at any time and/or can be set to any desired position below the fixed presetting. The presetting spindle is covered by the hand wheel fastening screw and thus protected against unauthorized operation.

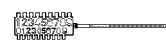
### Preset Sealing

The presetting seal (1 6517 04) is attached above the hand wheel fastening screw to prevent unauthorized operation. If the seal is removed it breaks and cannot be mounted again. Therefore, it can be clearly seen whether tampering with the valve has occurred.



### Presetting Marker

The pre-setting marker (1 6517 05) is fastened as a tag above the valve or pipe. The setting of the respective valve is marked by cutting or breaking off the teeth at the figures for full and partial turns. This permits checking and/or restoration of the original pre-setting made on the occasion of the system set-up after servicing without having to rely on documentation.



### Spindle Seal

The double-O-ring seals of both the main spindle and the presetting spindle ensure complete and lasting tightness and ease of valve operation. The seals have been approved for a maximum operating temperature of 150 °C.

### Seat Seal

The temperature-resistant and permanently elastic soft seal is corrosion-resistant, permits operation with a low shutting force, and has been approved for a maximum operating temperature of 150 °C.

STRÖMAX-GR valves are of the same mechanical design as STRÖMAX-GM, i.e. the digital presetting step display as well as the presetting procedure are identical. However, STRÖMAX-GR valves are not equipped with measuring valves.

**STRÖMAX-GR**

The STRÖMAX-GM circuit control valve is equipped with two measuring valves. The differential pressure can be measured using a suitable measuring instrument, which permits calculation of the flow rate as a function of the respective presetting step. The HERZ-Measuring computer (18901 00) permits direct flow rate reading (consult the equipment manual).

**Differential Pressure Measurement STRÖMAX-GM**

The STRÖMAX-GM and STRÖMAX-GR circuit control valves are supplied in open position, preset to permit the maximum possible valve lift. The hand wheel mechanism is adjusted in such a way that the digital reading will be 0.0 when the valve is closed.

**Presetting Setting and Fixing**

**Presetting Procedure**

1. Set to the desired step according to calculation (digital display on the hand wheel).
2. Remove the hand wheel locking screw, do not remove the hand wheel from the valve.
3. Screw the presetting spindle, which is now accessible, in up to the stop.
4. Screw in the hand wheel locking screw again.
5. Seal with presetting seal.
6. Mark the step set at the presetting marker and attach the marker to the valve.

Points 5 and 6 are not necessary for function, but are recommended. When using a differential manometer, setting can be performed only on the basis of the HERZ-setting diagrams. A flowrate for the STRÖMAX-GM valve can only be set without specifying a pre-setting step if a measuring instrument is used. Follow the operating instructions when using a measuring computer.

**Digital Display Factory Setting**

The factory setting of the digital display is 0.0 when the valve is closed. If the complete hand wheel (rotating grip, figure wheels, base plate) is removed from the valve or if a defective part has to be replaced, proceed as follows to ensure correct digital display reading:

1. Return the complete hand wheel into position and slide it onto the valve until the hexagon at the valve body and the spindle gear interlock.
2. Shut the valve by turning clockwise.
3. If the digital display reads 0.0 in the shut position, the hand wheel has been positioned correctly and can be secured by means of the locking screw. In case of a different reading remove the complete hand wheel.
4. Twist the base plate and rotating grip until the digital display reads 0.0 and then return the complete hand wheel into position without twisting the spindle.
5. Tighten hand wheel locking screw.

Then, the valve can be set to the desired position.

**Actuating the Measuring Valves STRÖMAX-GM**

The two measuring valves are equipped with a soft seal and permanently fixed in the circuit control valve.

**Warning:** Open the measuring valves only when a measuring instrument has been connected. Otherwise, hot water flowing out may cause injury!

The HERZ-measuring computer is equipped with suitable couplings with O-ring seal and locking screw that permit perfect fastening on the measuring valves.

Prior to measuring attach and secure the couplings. Only afterwards, open the measuring valve by approx. 1/2 turn using of the HERZ-universal key (16640 00) or by means of an 8 mm open end wrench.

After finishing the measuring procedure, first shut the measuring valve and only then remove the couplings from the measuring valves.

**Thermal Shells Art. No. 4096**

For thermal insulation and the avoidance of heat loss we recommend the use of thermal insulation shells.

These consist of two interlocking half shells and the spindle cover. The parts are closed by overlapping and held together by means of tightening straps. The thermal insulation shells can be removed and re-used at any time.

Thermal insulation shells can be used up to a maximum operating temperature of 120 °C.

For models and dimensions please refer to the HERZ catalogue.

**Accessories**

- 1 **4096** Thermal insulation shells – refer to the HERZ catalogue for order numbers
- 1 **6517 04** Pre-setting seal
- 1 **6517 05** Pre-setting marker
- 1 **6640 00** HERZ Universal key
- 1 **8902 00** HERZ measuring computer with printer interface

**Spare Parts**

- 1 **0283 09** Measuring valve
- 1 **6387** STRÖMAX-GM/GR upper part – refer to the HERZ catalogue for order numbers
- 1 **6517 06** Hand wheel for valve dimension 1/2" – 1 1/2"
- 1 **6517 08** Hand wheel for valve dimension 2" – 3"

**Diagrams**

The mechanical design of the hand wheel combined with the digital display permits setting of whole turns and tenths of a turn. Consequently, there is a large number of setting options which cannot be shown in a diagram. The diagrams show integral presetting steps and, to the extent that this is possible, also intermediate steps.

**k<sub>v</sub>-Value Tables**

In addition to the diagrams each pre-setting step is included in a k<sub>v</sub> table so that any desired value can be set with relative accuracy. In piping calculation software, the data is given on the basis of the more accurate k<sub>v</sub>-value table.