# SYST VDN

## Straight valve

## Quick facts

- Constant stroke length of the pin irrespective of the set kv-value gives accurate control even at low flows.

| Type | Dim. | $K_v$ ($m^3/h$) |
|---|---|---|
| SYST VDN215 | DN15 (1/2") | 0.10-0.31 |
| SYST VDN220 | DN20 (3/4") | 0.31-1.41 |

Swegon

# Commissioning

The kv-value shows the water quantity 100 $\dot{V}$ in $m^3/h$ for a pressure drop $\Delta p_{v100}$ across the valve of 1 bar.

On delivery, the valves are fully open (position N: SYST VDN215: $k_v$ 0.89 and SYST VDN220: $k_v$ 1.41).
The required $k_v$-value is set during commissioning.

The flow rate can be set by adjusting the valve cone setting. This is easily done using the protective housing (supplied with the unit) with a $k_v$-value having marks of different length (see table 1). The lift height is always the same, regardless of setting.

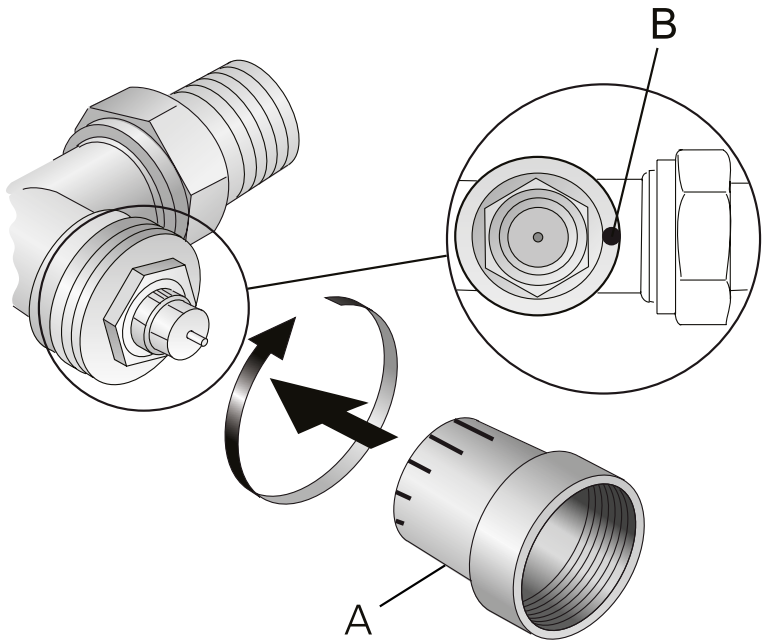



*Figure 1. Commissioning of $k_v$-value*
*A = Protective housing, rotatable through 180°*
*B = Marking on the outlet side of the valve*

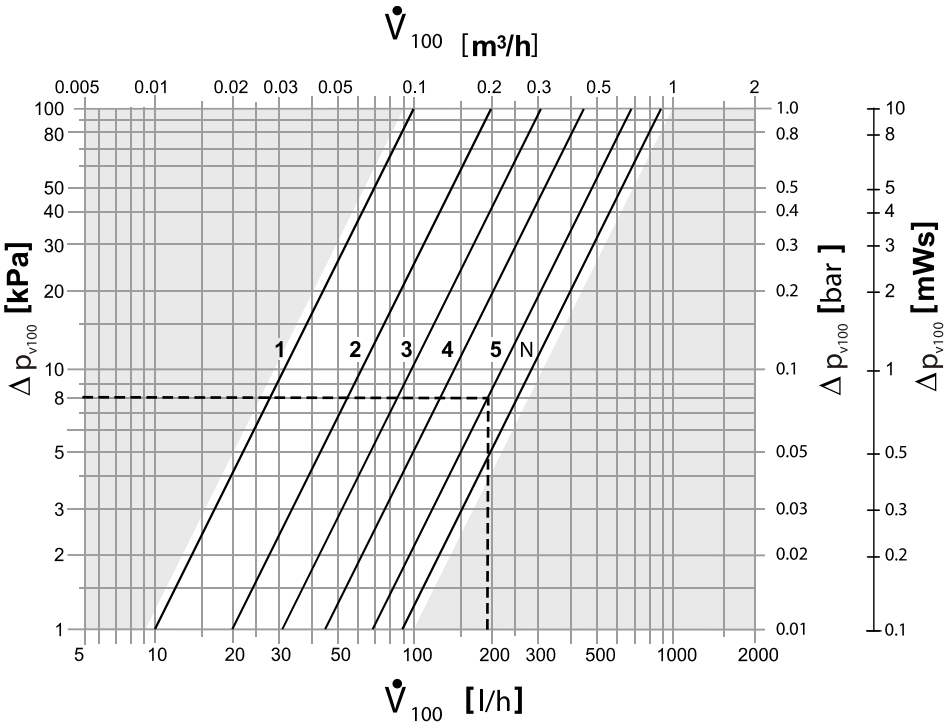
1. Fit the protective housing A over the valve.
2. Turn the protective housing until the desired reference mark is centred with mark B on the valve.

**Table 1. $k_v$-value ($m^3/h$) for different settings**

| | | 1 | 2 | 3 | 4 | 5 | N($k_{vs}$) |
|---|---|---|---|---|---|---|---|
| **A** | | | | | | | |
| **B** | SYST VDN215 | 0.10 | 0.20 | 0.21 | 0.45 | 0.69 | 0.89 |
| **B** | SYST VDN220 | 0.31 | 0.41 | 0.54 | 0.83 | 0.91 | 1.41 |

*A = Reference mark*
*B = $k_v$-value*

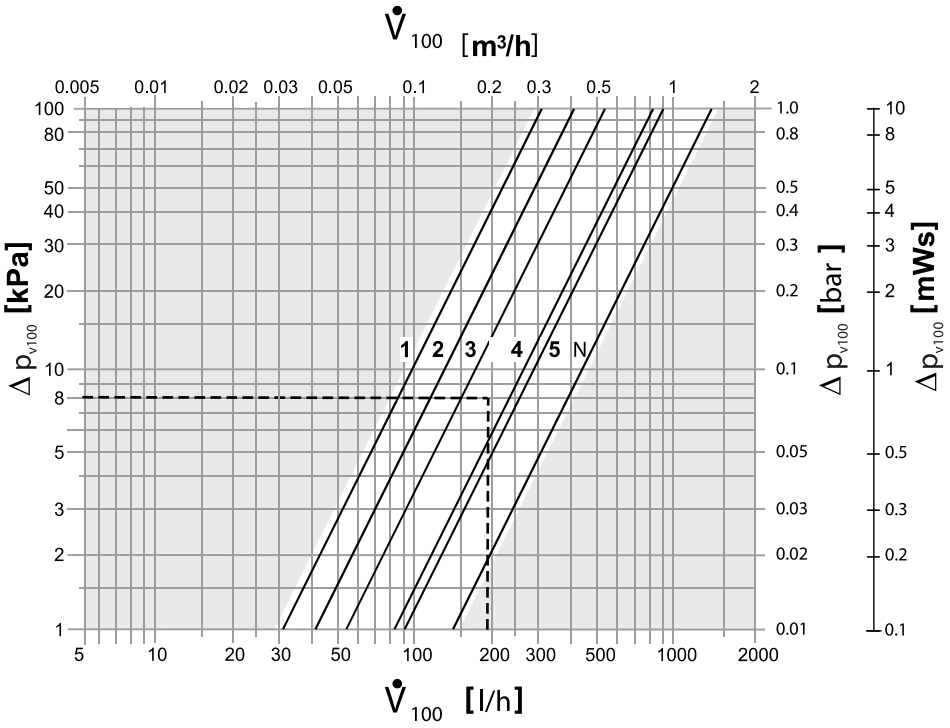
### SYST VDN215

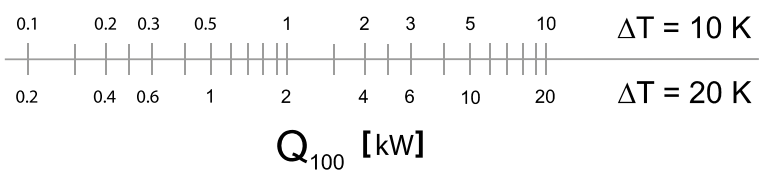



Ex: Water flow 0.05 l/s ≃ 180 l/h → approx. 8 kPa at $K_v$ ref 5.

Current water flow for a product in a specific operating mode can be read from Room Unit Design or Single Product Calculator

### SYST VDN220



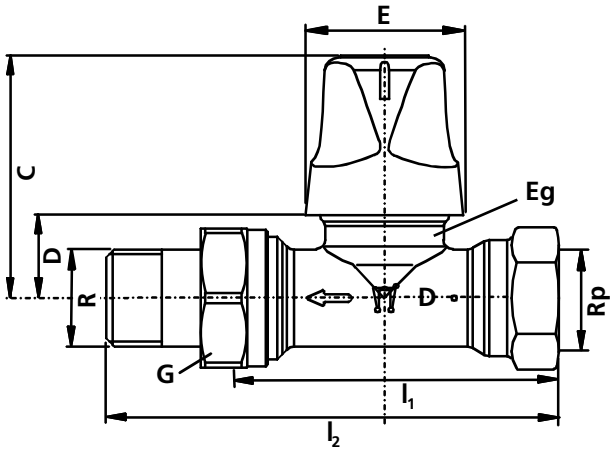



# Technical data

| | | | |
|---|---|---|---|
| Functional data | Enclosure class | PN 10 | |
| | Permissible media [1] | Cold and hot water, water with propylene-glycol, water with ethylene-glycol <30 %;<br>Recommendation: Water treatment according to VDI 2035 | |
| | Media temperature | 1…120 °C | |
| | Permissible operating pressure | 1000 kPa (10 bar) | |
| | Pressure difference $\Delta p_{max}$ | max. 60 kPa (0.6 bar) | |
| | Pressure difference $\Delta p_{v100}$ | 5…20 kPa (0.05…0.2 bar): recommended range | |
| | Lifting height | min. 1.2 mm | |
| Norms and standards | Environmentally compatibility | ISO 14001 (environment) | |
| | | ISO 9001 (quality) | |
| | | SN 36350 (environmentally friendly products) | |
| | | RL 2002/95/EC (RoHS) | |
| Material | Valve casing | brass, matt, nickel plated | |
| | Connection nipple | brass, matt, nickel plated | |
| | Protective housing | polypropylene | |
| | O-ring | EPDM | |
| Dimensions / Weight | See section Dimensions below | | |
| | Installation length | EN 215 | |
| | Thread | Rp female thread | according to ISO 7-1 |
| | | R male thread | according to ISO 7-1 |
| | | G thread | according to ISO 228-1 |
| | | Eg thread | M30 x 1.5 mm |
| Tightening torque cone coupling | SYST VDN215 | 60 Nm | |
| | SYST VDN220 | 80 Nm | |
| Maintenance | The valves are maintenance free. | | |

[1] From an environment protection standpoint propylene-glycol is preferable.

# Dimensions




| | | Dimensions (mm) | | | | | Thread (inch) | | | Thread (mm) | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | DN | $1_1$ | $1_2$ | C | D | E | Rp | R | G | Eg | (kg) |
| SYST VDN215 | 15 | 55 | 82 | 53 | 18 | 35 | ½ | ½B | ¾ | M30 x 1.5 | 0.265 |
| SYST VDN220 | 20 | 65 | 98 | 60 | 25 | 35 | ¾ | ¾B | 1 | M30 x 1.5 | 0.385 |