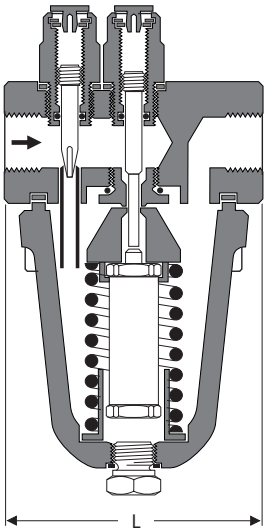
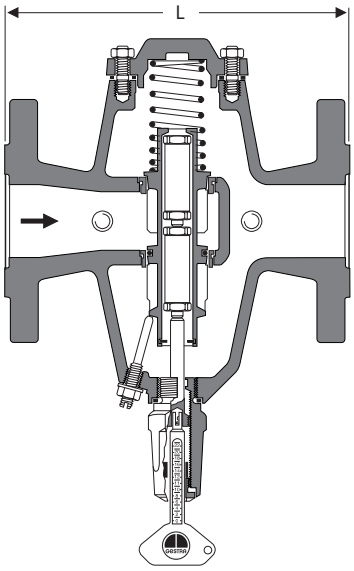
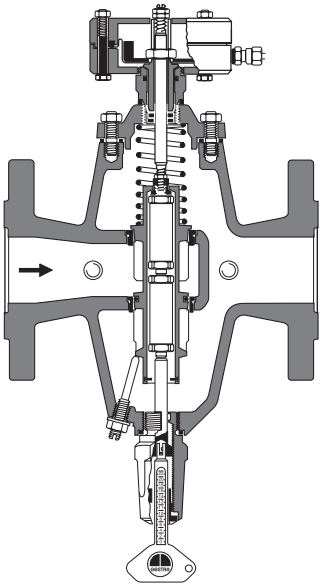



*CW 44*




*CW 41*



*MCW 41*

## Features of the CW Series

- Direct acting proportional controller for regulating the cooling-water return temperature.
- Reduced capital costs (for new plants) coolant and energy consumption due to higher discharge temperatues
- The valve prevents short-circuiting and automatically balances large systems.
- Straight-through body with solid-state expansion thermostat and setting device.
- Standard valve type CW 41 with pressure gauge (0–6 bar) and thermometer (–30 to +100 °C).
- MCW 41 = CW 41 with diaphragm actuator. (Retro-fitting of diaphragm actuator possible).

## Application

| | |
|---|---|
| **CW 41**<br>**CW 44** | for industrial cooling water |
| **CW 41/4**<br>**CW 44 k** | for saline fluids, ammoniacal cooling water and chlorinated hydrocarbons (wetted internal parts made from stainless steel) |
| **MCW 41** | for heavily contaminated cooling systems |

## Specification*)

| Type | PN | ΔPMX [bar] | Material | | Pressure/Temperature | |
|---|---|---|---|---|---|---|
| | | | EN | ASTM | PMA / TMA | PMA / TMA |
| **CW 41** | 16 | 6 | EN-JS 1049 | – [1] | 16 bar/–32 °C | 16 bar/110 °C [2][3] |
| **CW 41/4** | 16 | 6 | EN-JS 1049 | – [1] | 16 bar/–32 °C | 16 bar/110 °C [2][3] |
| **CW 44** | 25 | 16 | 1.0460 | A 105 [1] | 25 bar/–2 °C | 25 bar/110 °C [2][3] |
| **CW 44 k** | 25 | 16 | 1.0460 | A 105 [1] | 25 bar/–37 °C | 25 bar/85 °C [2][3] |

**[1] ASTM nearest equivalent grade is stated for guidance only. Physical and chemical properties comply with EN.**

**[2] Temperature only admissible for a short time**

**[3] Admissible temperature depends on type of thermostat: type n (standard) 110 °C, type w (wax) 100 °C, type k (brine) 85 °C**

***) For more information see data sheets.**

## Temperature Ratings

| Type | Thermostat / cone combination | Adjustment range |
|---|---|---|
| **CW 41**<br>**CW 41/4** | wr or ws | 20 °C – 60 °C |
| | nr or ns | 3 °C – 100 °C |
| | kr or ks | –32 °C – 74 °C |
| **CW 44** | n | –2 °C – 106 °C |
| **CW 44 k** | k | –37 °C – 71 °C |
| | w = wax thermostat<br>n = standard thermostat<br>k = thermostat for brine<br>r = reduced cone for small flowrates<br>s = standard cone for large flowrates | |

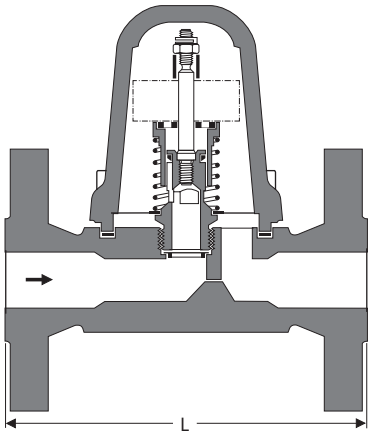
## End Connections and Overall Lengths

| Type | End connection | Overall length L [mm] | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | DN 10 | DN 15 | DN 20 | DN 25 | DN 40 | DN 50 | DN 80 | DN 100 |
| | | 3/8" | 1/2" | 3/4" | 1" | 1 1/2" | 2" | 3" | 4" |
| **CW 41** | Flanged DIN PN 16 | – | – | – | 160 | 200 | 230 | 310 | 350 |
| **CW 41/4** | Flanged DIN PN 16 | – | – | – | 160 | 200 | 230 | 310 | 350 |
| **CW 44** | Screwed sockets | 95 | 95 | 95 | 95 | – | – | – | – |
| **CW 44 k** | Screwed sockets | 95 | 95 | 95 | 95 | – | – | – | – |

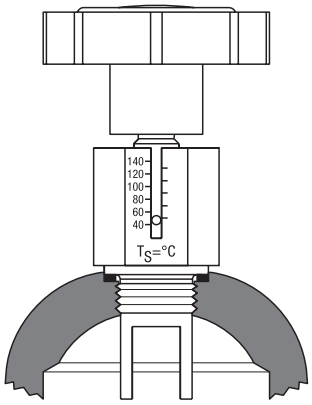
## Flowrates ($k_v$ values)

| Type | Cone | | DN 25 | DN 40, DN 50 | DN 80, DN 100 |
|---|---|---|---|---|---|
| **CW 41** | r | $K_{VS}$ value [m³/h] | 2.1 | 6.5 | 20 |
| **CW 41/4** | | $K_{VO}$ (Preset bleed flow) [m³/h] | 0.12 | 0.31 | 1.0 |
| | s | $K_{VS}$ value [m³/h] | 10.5 | 31 | 98 |
| | | $K_{VO}$ (Preset bleed flow) [m³/h] | 0.55 | 1.5 | 5.0 |

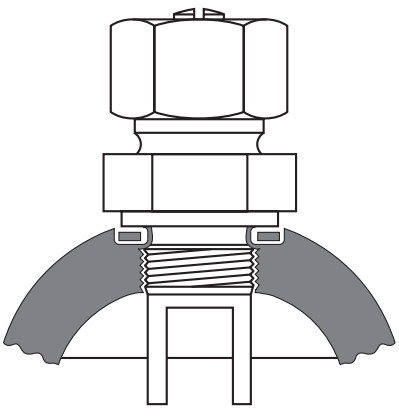
| | | | G 3/8 | G 1/2 | G 3/4 | G 1 |
|---|---|---|---|---|---|---|
| **CW 44** | – | $K_{VS}$ value [m³/h] | 0.66 | 0.66 | 1.37 | 1.37 |
| **CW 44 k** | – | $K_{VO}$ (Preset bleed flow) [m³/h] ] | 0.04 | 0.04 | 0.04 | 0.04 |




*BW 31, DN 15–25 mm*




*External setting device for BW 31*



*Setting device for BW 31A*

## Features of the BW series

- Direct acting proportional controller for maintaining constant return temperatures.
- Used for regulating large heating systems and tracing systems, or for the temperature control of individual heat exchangers (washing baths, chemical and galvanic baths).
- The valve prevents short-circuiting and automatically balances large systems.
- Straight-through valve with balanced valve sleeve. Closing temperature set at our works.
- Valves with external setting device available on request.

## Application

| | |
|---|---|
| **BW 31** | for hot water |
| **BW 31 A** | for thermal oils |

## Specification

| **BW 31 PN 40** | | | | | |
|---|---|---|---|---|---|
| Material | 1.0460 (P250GH / C 22.8) / ASTM A105 | | | | |
| Size (DN) | 15, 20, 25 | | | | |
| Connection | Flanged to EN PN 40 | | | | |
| Service pressure PMA [bar] | 40 | 37.3 | 30.2 | 25.8 | 23.1 |
| Inlet temperature TMA [°C] | 20 | 100 | 200 | 300 | 400 |

| **BW 31 PN 25** | | | | | |
|---|---|---|---|---|---|
| Material | 1.0460 (P250GH / C 22.8) / ASTM A105 | | | | |
| Size (DN) | 40 | | | | |
| Connection | Flanged to EN PN 25 | | | | |
| Service pressure PMA [bar] | 25 | 23.3 | 19.4 | 16.1 | 14.4 |
| Inlet temperature TMA [°C] | 20 | 100 | 200 | 300 | 400 |

| **BW 31A PN 40** | | | | | |
|---|---|---|---|---|---|
| Material | 1.0460 (P250GH / C 22.8) / ASTM A105 | | | | |
| Size (DN) | 15, 20, 25 | | | | |
| Connection | Flanged to EN PN 40 | | | | |
| Service pressure PMA [bar] | 40 | 37.3 | 30.2 | 25.8 | 23.1 |
| Inlet temperature TMA [°C] | 20 | 100 | 200 | 300 | 400 |

| **BW 31A PN 25** | | | | | |
|---|---|---|---|---|---|
| Material | 1.0460 (P250GH / C 22.8) / ASTM A105 | | | | |
| Size (DN) | 40 | | | | |
| Connection | Flanged to EN PN 25 | | | | |
| Service pressure PMA [bar] | 25 | 23.3 | 19.4 | 16.1 | 14.4 |
| Inlet temperature TMA [°C] | 20 | 100 | 200 | 300 | 400 |

| | |
|---|---|
| Admissible differential pressure (upstream pressure minus downstream pressure) Δ PMX [bar] | 6 |

## End Connections and Overall Lengths L

| **Type** | **Connections** | **Overall length L [mm]** | | | |
|---|---|---|---|---|---|
| | | **DN 15** | **DN 20** | **DN 25** | **DN 40** |
| | | $1/2$" | $3/4$" | 1" | $1\,1/2$" |
| **BW 31** | Flanged EN PN 25 | 150 | 150 | 160 | 200 |
| | Flanged ASME 150 | 150 | 150 | 160 | 200 |
| | Screwed sockets | 95 | 95 | 95 | – |
| **BW 31A** | Flanged EN PN 25 | 150 | 150 | 160 | 200 |
| | Flanged ASME 150 | 150 | 150 | 160 | 200 |
| | Screwed sockets | 95 | 95 | 95 | – |

## Adjustable closing temperatures (without external setting device)

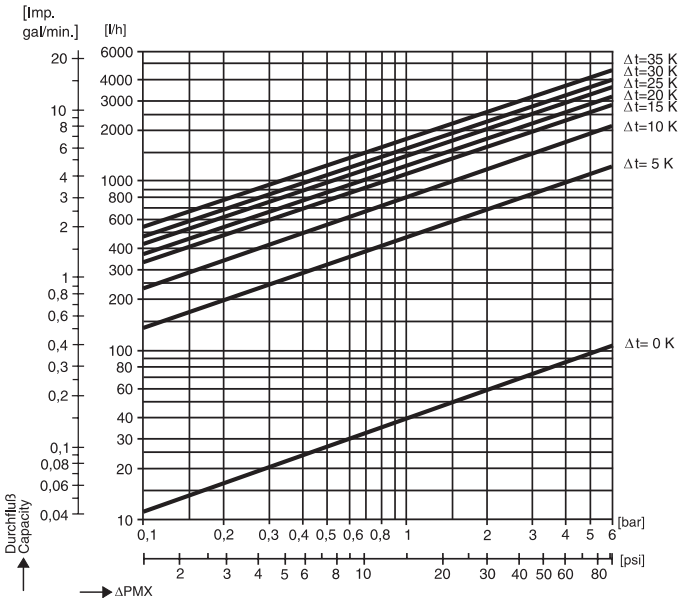
| Adjustable range / Type | DN 15 mm | DN 20 mm | DN 25 mm | DN 40 mm |
|---|---|---|---|---|
| | 1/2" | 3/4" | 1" | 1 1/2" |
| **BW 31** | 60 °C - 130 °C | 40 °C - 115 °C | 40 °C - 115 °C | 50 °C - 110 °C |
| **BW 31A** | 120 °C - 270 °C | 100 °C - 280 °C | 100 °C - 280 °C | 100 °C - 270 °C |

## Adjustable closing temperatures (with external setting device)

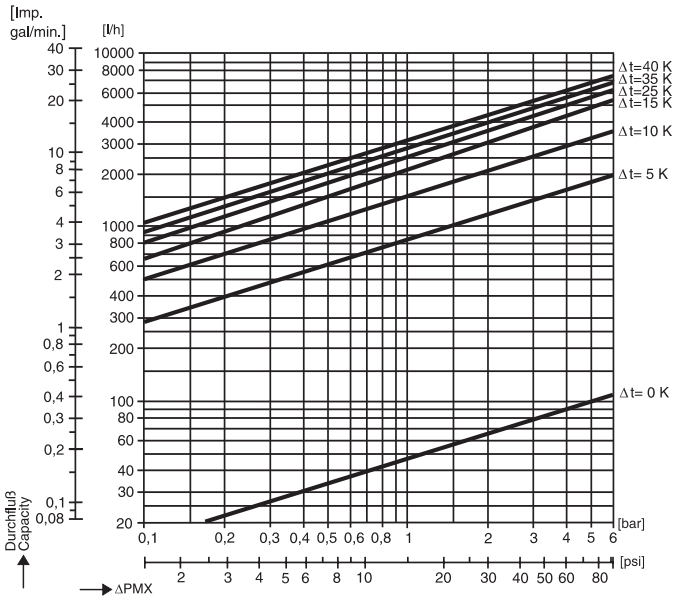
| | | | | |
|---|---|---|---|---|
| **BW 31** | 60 °C - 130 °C | 40 °C - 115 °C | 40 °C - 115 °C | 50 °C - 110 °C |
| **BW 31A** | 90 °C - 270 °C | 70 °C - 270 °C | 70 °C - 270 °C | 70 °C - 270 °C |

## Capacity Charts

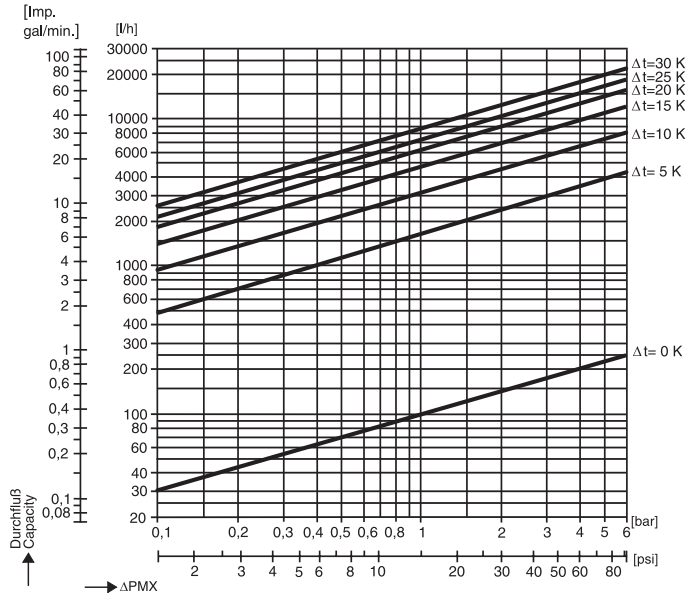
### BW 31, DN 15[2])




### BW 31, DN 20 and 25[2])




### BW 31, DN 40[2])




Δt = temperature difference in Kelvin [K] between closing temperature (temperature at which the valve is closed) and return temperature.

**[2]) For capacity chart BW 31 A see data sheet.**