

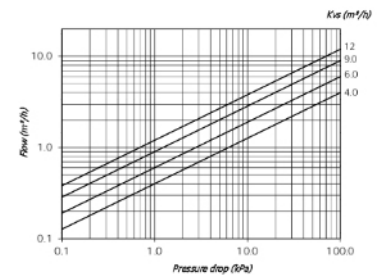
LK 820 ThermoVar



TECHNICAL DATA

| | |
|----------------------------------|--------------------------------------|
| Opening temperatures | 45°C, 55°C, 61°C, 66°C, 72°C or 80°C |
| Working temperature, 45°C - 55°C | Min. +5°C / Max. +95°C |
| Working temperature, 61°C - 80°C | Min. +5°C / Max. +110°C |
| Ambient temperature | Min. +5°C / Max. +60°C |
| Max. working pressure | 1.0 MPa (10 bar) |
| Max. pressure difference | 50 kPa |
| Media | Water - Glycol mixture max. 50% |
| Thread standard Female/Male | Rp / G |
| Material, valve body/cover | Brass EN 12165 CW617N |
| Material, O-ring | EPDM |

Capacity Diagram



LK 820 ThermoVar is a 3-way thermic loading valve for solid fuel/storage tank installations. The valve is intended to ensure both an optimal temperature stratification in the storage tank and a high return temperature to the boiler, thus increasing the efficiency of the system. Tarring and condensation are prevented which prolongs boiler life.

The valve can be mounted at any angle. LK 820 ThermoVar can easily be adapted for right- or left-hand mounting. The valve can be installed in three different positions. In the standard version the valve is intended for installation in position II. It can easily be adapted for installation in position I. For delivery of valves intended for installation in position III, please contact our Sales Department.

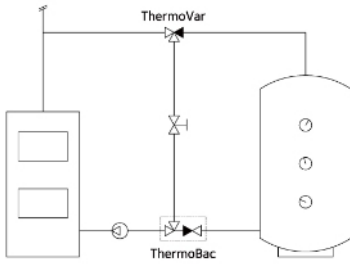
Position I

As soon as the boiler temperature has reached the selected opening temperature, the thermic valve allows hot water to load the storage tank. Return water from the storage tank is mixed with supply water before it circulates back into the boiler. The loading temperature is at least the selected opening temperature.

A balancing valve should be installed in the circuit between boiler and loading valve.

The installation should be equipped with an LK 822 ThermoBac check valve that prevents self-circulation from the storage tank to the boiler after the fire has gone out. In case of power failure or pump breakdown the check valve automatically opens for self-circulation.

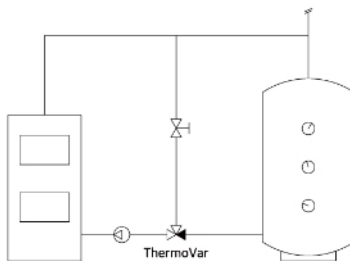
The circulating pump should be controlled by a thermostat that measures the boiler's water- or flue gas temperature.

Position I**Position II**

As soon as the boiler temperature has reached the selected opening temperature, the thermic valve allows return water from the storage tank to mix with supply water before it circulates back into the boiler. The return temperature is at least the selected opening temperature.

A balancing valve should be installed in the circuit between boiler and loading valve.

The circulating pump should be controlled by a thermostat that measures the boiler's water- or flue gas temperature.

Position II**Position III**

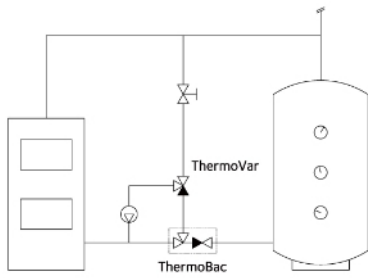
As soon as the boiler temperature has reached the selected opening temperature, the thermic valve allows return water from the storage tank to mix with supply water before it circulates back into the boiler. The return temperature is at least the selected opening temperature.

A balancing valve should be installed in the circuit between boiler and loading valve.

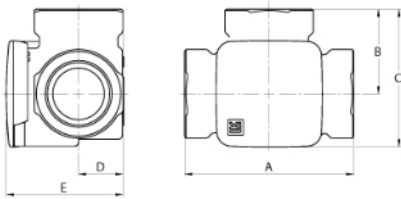
The installation should be equipped with an LK 822 ThermoBac check valve that prevents self-circulation from the storage tank to the boiler after the fire has gone out. In case of power failure or pump breakdown the check valve automatically opens for self-circulation.

The circulating pump should be controlled by a thermostat that measures the boiler's water- or flue gas temperature.

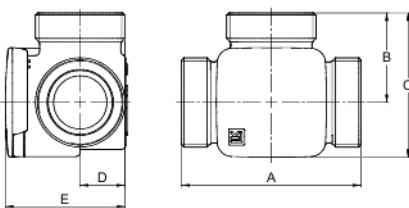
Position III



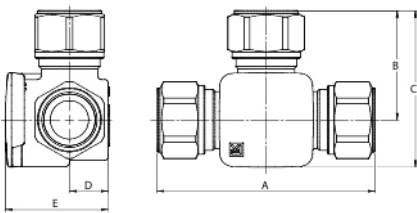
LK 820 - FEMALE THREAD



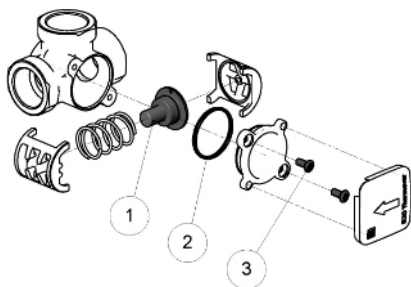
LK 820 - MALE THREAD



LK 820 - COMPRESSION FITTING



SPARE PARTS AND ACCESSORIES



| Article number | Opening temperature | Dim. | Kvs m ³ /h | A mm | B mm | C mm | D mm | E mm | Weight kg |
|----------------|---------------------|-------|-----------------------|------|------|------|------|------|-----------|
| 180491 | 45°C | F ½" | 4.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180492 | 45°C | F ¾" | 6.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180493 | 45°C | F 1" | 9.0 | 82 | 41 | 67 | 21 | 35 | 0.7 |
| 180494 | 45°C | F 1¼" | 12 | 84 | 42 | 68 | 24 | 39 | 0.8 |
| 180499 | 55°C | F ½" | 4.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180500 | 55°C | F ¾" | 6.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180501 | 55°C | F 1" | 9.0 | 82 | 41 | 67 | 21 | 35 | 0.7 |
| 180502 | 55°C | F 1¼" | 12 | 84 | 42 | 68 | 24 | 39 | 0.8 |
| 180507 | 61°C | F ½" | 4.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180508 | 61°C | F ¾" | 6.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180509 | 61°C | F 1" | 9.0 | 82 | 41 | 67 | 21 | 35 | 0.7 |
| 180510 | 61°C | F 1¼" | 12 | 84 | 42 | 68 | 24 | 39 | 0.8 |
| 180515 | 66°C | F ½" | 4.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180516 | 66°C | F ¾" | 6.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180517 | 66°C | F 1" | 9.0 | 82 | 41 | 67 | 21 | 35 | 0.7 |
| 180518 | 66°C | F 1¼" | 12 | 84 | 42 | 68 | 24 | 39 | 0.8 |
| 180523 | 72°C | F ½" | 4.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180524 | 72°C | F ¾" | 6.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180525 | 72°C | F 1" | 9.0 | 82 | 41 | 67 | 21 | 35 | 0.7 |
| 180526 | 72°C | F 1¼" | 12 | 84 | 42 | 68 | 24 | 39 | 0.8 |
| 180531 | 80°C | F ½" | 4.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180532 | 80°C | F ¾" | 6.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180533 | 80°C | F 1" | 9.0 | 82 | 41 | 67 | 21 | 35 | 0.7 |
| 180534 | 80°C | F 1¼" | 12 | 84 | 42 | 68 | 24 | 39 | 0.8 |

| Article number | Opening temperature | Dim. | Kvs m ³ /h | A mm | B mm | C mm | D mm | E mm | Weight kg |
|----------------|---------------------|-------|-----------------------|------|------|------|------|------|-----------|
| 180495 | 45°C | M ¾" | 4.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180496 | 45°C | M 1" | 6.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180497 | 45°C | M 1¼" | 9.0 | 84 | 42 | 68 | 21 | 35 | 0.7 |
| 180498 | 45°C | M 1½" | 12 | 84 | 42 | 68 | 24 | 39 | 0.8 |
| 180503 | 55°C | M ¾" | 4.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180504 | 55°C | M 1" | 6.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180505 | 55°C | M 1¼" | 9.0 | 84 | 42 | 68 | 21 | 35 | 0.7 |
| 180506 | 55°C | M 1½" | 12 | 84 | 42 | 68 | 24 | 39 | 0.8 |
| 180511 | 61°C | M ¾" | 4.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180512 | 61°C | M 1" | 6.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180513 | 61°C | M 1¼" | 9.0 | 84 | 42 | 68 | 21 | 35 | 0.7 |
| 180514 | 61°C | M 1½" | 12 | 84 | 42 | 68 | 24 | 39 | 0.8 |
| 180519 | 66°C | M ¾" | 4.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180520 | 66°C | M 1" | 6.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180521 | 66°C | M 1¼" | 9.0 | 84 | 42 | 68 | 21 | 35 | 0.7 |
| 180522 | 66°C | M 1½" | 12 | 84 | 42 | 68 | 24 | 39 | 0.8 |
| 180527 | 72°C | M ¾" | 4.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180528 | 72°C | M 1" | 6.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180529 | 72°C | M 1¼" | 9.0 | 84 | 42 | 68 | 21 | 35 | 0.7 |
| 180530 | 72°C | M 1½" | 12 | 84 | 42 | 68 | 24 | 39 | 0.8 |
| 180535 | 80°C | M ¾" | 4.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180536 | 80°C | M 1" | 6.0 | 80 | 40 | 66 | 21 | 35 | 0.7 |
| 180537 | 80°C | M 1¼" | 9.0 | 84 | 42 | 68 | 21 | 35 | 0.7 |
| 180538 | 80°C | M 1½" | 12 | 84 | 42 | 68 | 24 | 39 | 0.8 |

| Article number | Opening temperature | Dim. | Kvs m ³ /h | A mm | B mm | C mm | D mm | E mm | Weight kg |
|----------------|---------------------|-------|-----------------------|------|------|------|------|------|-----------|
| 181118 | 45°C | 15 mm | 4.0 | 114 | 57 | 83 | 21 | 35 | 0.8 |
| 181119 | 45°C | 22 mm | 6.0 | 114 | 57 | 83 | 21 | 35 | 0.8 |
| 181120 | 45°C | 28 mm | 9.0 | 120 | 60 | 86 | 21 | 35 | 1.0 |
| 181121 | 55°C | 15 mm | 4.0 | 114 | 57 | 83 | 21 | 35 | 0.8 |
| 181122 | 55°C | 22 mm | 6.0 | 114 | 57 | 83 | 21 | 35 | 0.8 |
| 181123 | 55°C | 28 mm | 9.0 | 120 | 60 | 86 | 21 | 35 | 1.0 |
| 181124 | 61°C | 15 mm | 4.0 | 114 | 57 | 83 | 21 | 35 | 0.8 |
| 181125 | 61°C | 22 mm | 6.0 | 114 | 57 | 83 | 21 | 35 | 0.8 |
| 181126 | 61°C | 28 mm | 9.0 | 120 | 60 | 86 | 21 | 35 | 1.0 |
| 181133 | 66°C | 15 mm | 4.0 | 114 | 57 | 83 | 21 | 35 | 0.8 |
| 181134 | 66°C | 22 mm | 6.0 | 114 | 57 | 83 | 21 | 35 | 0.8 |
| 181135 | 66°C | 28 mm | 9.0 | 120 | 60 | 86 | 21 | 35 | 1.0 |
| 181127 | 72°C | 15 mm | 4.0 | 114 | 57 | 83 | 21 | 35 | 0.8 |
| 181128 | 72°C | 22 mm | 6.0 | 114 | 57 | 83 | 21 | 35 | 0.8 |
| 181129 | 72°C | 28 mm | 9.0 | 120 | 60 | 86 | 21 | 35 | 1.0 |
| 181130 | 80°C | 15 mm | 4.0 | 114 | 57 | 83 | 21 | 35 | 0.8 |
| 181131 | 80°C | 22 mm | 6.0 | 114 | 57 | 83 | 21 | 35 | 0.8 |
| 181132 | 80°C | 28 mm | 9.0 | 120 | 60 | 86 | 21 | 35 | 1.0 |

Spare parts and Accessories

| Article Number | Article | Included components |
|----------------|----------------------------------|---------------------|
| 187025 | LK 820 Thermostatic element 45°C | 1-3 |
| 187026 | LK 820 Thermostatic element 55°C | 1-3 |
| 187027 | LK 820 Thermostatic element 61°C | 1-3 |
| 187028 | LK 820 Thermostatic element 66°C | 1-3 |
| 187029 | LK 820 Thermostatic element 72°C | 1-3 |
| 187030 | LK 820 Thermostatic element 80°C | 1-3 |