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LK 162 SmartStove



TECHNICAL DATA

Voltage	230 VAC ± 10%, 50 Hz
Power consumption	3,5 VA
Relay output	Max. 240 VAC, 4 A
Triac outputs	230 VAC ± 10%, 1 A, 200 VA
High-efficiency pump	Analog output 0 -10 V, max. 10 mA
	PWM output 100 Hz - 2 kHz
Sensors	PT 1000
Display	TFT backlit colour display
	47 x 35 mm
Protection type	IP 20
Protection class	II

Features

- Acoustic alarm and indication in the display if over temperature should occur in stove or buffer tank
- A temperature sensor in the stove controls the charge pump of the loading unit which means that no fluegas thermostat is needed
- Pump delay function. The charge pump in the loading unit does not start until the stove has reached a certain temperature. This saves energy, prevents tarring and considerably prolongs the life-time of the stove
- Dynamic pump control can be activated when the loading unit is equipped with a speed-controlled pump. The pump control keeps the flow at a constant temperature
- Economy or comfort mode can be selected to optimize energy efficiency in the potable hot water boiler and/or in the heating system
- Controls an additional heat source
- Delay function for the additional heat source
- 7 hydraulic systems which can be mirrored
- 2 outputs for speed-controlled pumps with PWMand/or analogue signal
- 6 terminals for temperature sensors
- 1 floating change-over contact
- SD card slot for data logging and software update
- USB for PC connection
- Legionella prevention
- Pump exercise
- Freeze protection

LK 162 SmartStove is a biomass controller for multi-fuel water-containing stoves with buffer tanks. The controller has a number of preset hydraulic systems for different installations.

For indication of the active hydraulic system and the current temperatures in stove and buffer tank the controller is equipped with a coloured full graphics display which is permanently backlit.

LK 162 SmartStove can control the charge pump of a loading unit, the circulator in a heating loop, high-efficiency pumps and an additional heat source.

HYDRAULIC SYSTEM



Hydraulic System





LK 162 SMARTSTOVE



Article no.	Article	Weight kg
181708	LK 162 SmartStove	0.7

Four sensors included (PT 1000 - 4 m cable).



LK 434 FlowMet



TECHNICAL DATA

Working temperature	Min. 5°C / Max. 70°C
	(85°C briefly)
Ambient temp.	Min20°C / Max. 40°C
Max. working pressure	1.0 MPa (10 bar)
Max. differential pressure	e 100 kPa
Max. flow	5 l/min or 1.45 gallon/min
Media 1	Water
Media 2	Water - Ethylene glycol mixture
	max. 50%
Media 3	Water - Propylene glycol mixture
	max. 50%
Media 4	Water - Ethanol mixture max. 50%
Thread standard	G - male thread
Manual override	Yes
Material, valve body	Brass EN 12165 CW617N
Material, sealing	EPDM

LK 434 FlowMet is a combined visual flow meter and balancing valve for easy and precise adjustment of the flow in e.g. underfloor heating, traditional heating and cooling systems.

An accurate flow rate ensures optimum energy distribution in the system.

Adjustments are easily made by hand between 0.5 and 51/ minute or from 0.15 to 1.45 gallon/minute. The flow rate can be read from the graduated scale on the sight glass.

The thread length and the size of the cross section of the O-ring makes LK 434 FlowMet suitable for stainless steel manifolds which may have larger tolerances.

10,0 10,0 1,0 1,0

1,0

Pressure drop (kPa)

CAPACITY DIAGRAM

LK 434 FLOWMET

0,1 0,1





10.0

Article no.	Dimension	Kvs m³/h	Connection	Flow range	A mm	B mm	C mm	D mm	Weight kg
090066	M 1⁄2"	1.15	M 1⁄2"	0.5 - 5 l/min	63	45,5	11	31.5	0.03
090067	M 1⁄2"	1.15	M 1⁄2"	0.15 - 1.45 gallon/min	63	45,5	11	31.5	0.03



LK 521 MultiFill®



TECHNICAL DATA

100,0

10.0

1,0

0,1 + 0,1

Flow (m³/h)

Working temperature	Min20°C/Max. +80°C
Max. working pressure	1,0 MPa (10 bar)
Media 1	Water - Glycol mixture max. 50%
Media 2	Water - Ethanol mixture max. 30%
	(Working temperature: Max. +60°C)
Thread standard	G - male thread
Material, valve body	Brass EN 12165 CW617N
Material, insulation	Expanded Polystyrene EPS
Mesh opening, filter	Main valve: 0,6 mm ²
	Fillingvalve: 0,7 mm ²
Material, filter element	Main valve: Plastic, Stainless steel
	Filling valve. Stainless steel
Material, sealing	EPDM
-	

LK 520 MultiFill® 25 is a combination valve for easy filling of refrigerant fluid into ground source heat systems. The valve has a filter to protect the evaporator against possible grit. Its compact construction allows it to be installed in tight spaces. The valve comes with an insulation to protect against condensation and possible icing. LK 520 MultiFill® 25 can also be used in other applications where filling and filtration are required.

Arrows on the valve body indicate the direction of the flow. The enclosed insulation should be used.

Apart from cleaning the filter no maintenance is required. The filter should be cleaned immediately after installation, a month later and then every other year or when refilling fluid to the system. Check the installation regularly.



LK 521 - MALE THREAD







Article no.	Dimension 1	Dimension 2	Kvs m³/h	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	l mm	J mm
091480	M 1"	M 3⁄4"	12.5	165	127	83,5	29	108,5	29	282	83	105	171
091481	M 1¼"	M 3⁄4"	27	171,5	138	87,5	29	114,5	29	282	83	105	171

Dimension 1 - Pipe connection to collector hose Dimension 2 - Connection for filling of fluid



LK 522 FilterBall



TECHNICAL DATA

Thread standard

Material, sealing

Media 1

Media 2

Min. -20°C/Max. +100°C Working temperature Max. working pressure 1,0 MPa (10 bar) Water - Glycol mixture max. 50% (Working temperature: Max. 80°C) Water - Ethanol mixture max. 30% (Working temperature: Max. 60°C) Rp - female thread Mesh opening, filter 0,6 mm² / 1,0 mm² Material, valve body Brass EN 12165 CW617N Material, filter element Stainless Steel, Plastic **EPDM**

LK 522 FilterBall is a ball valve with integrated filter for applications in e.g. heating and cooling systems.

Cleaning the filter is easily done by closing the valve, unscrewing the lid and taking out the filter.

CAPACITY DIAGRAM -	Mesh	OPENING	0,6	мм
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CAPACITY DIAGRAM - MESH OPENING 1,0 MM



LK 522 FILTERBALL







Article no.	Dimension	Kvs m³/h	A mm	C mm	D mm	F mm	G mm	Weight kg
091555	F ¾"	7.5	18,5	19,5	63	38,5	43	0.41
091556	F 1"	12.5	23	24	75	43	47	0.56
091557	F 1¼"	27	30	30,5	85	50,5	61	0.94
091558	F 11⁄2"	32	34	35	92.5	56	71	1.20
091559	F 2"	62	46	49	114	67	81	2.25

Kvs = Mesh size 0,6 mm



LK 527 MultiZone 2W



TECHNICAL DATA

Working temperatureMin. +2°C / Max. +110°CAmbient temp.Min. +1°C / Max. +55°CMax. working pressure3,2 MPa (32 bar)Max. differential pressure600 kPa (6 bar)MediaWater - Glycol mixture maxThread standardR - male thread,

Material, valve body Material, ball Actuator Protection class

Min. +1°C / Max. +55°C 3,2 MPa (32 bar) 600 kPa (6 bar) Water - Glycol mixture max. 50% R - male thread, Rp - female thread, G - male thread Brass CW617N Brass CW617N 230 VAC, 50 Hz IP 44

Cable specification

Dimension Wire colours External insulation Electrical connection Signal connector 3 x 0,75 mm² Blue, brown, black PVC Fixed wire 2-Point SPST

*Applies for 527 MultiZone 2W female thread

LK 527 MultiZone is a motorized 2-way ball valve with high flow capacity for applications in, for example heating, cooling and domestic water systems.

The zone valve has On/Off control and is controlled by 2-point signal.

Assembly/disassembly of actuator on the ball valve is simple and secure, using the clip-system.

The zone valve must not be installed with the actuator underneath the valve unit.

In case of a power failure, the valve stays in its current position. When the power is switched off, the valve can be manually set by the handle on the actuator.

Please note that the actuator can be installed in only one position.

WIRING DIAGRAM



Ks (m²/h) 100,0





CAPACITY DIAGRAM

LK 527 2W - Female thread





Article no.	Article	Kvs m³/h	A mm	C mm	Weight kg
066263	Valve unit F 1/2"	20	62	104	0.61
066264	Valve unit F ¾"	45	68	107	0.72
066265	Valve unit F 1"	60	81	112	0.91
066266	Valve unit F 1¼"	100	86	117	1.06

LK 527 2W - MALE THREAD / FEMALE THREAD





Article no.	Article	Kvs m³/h	A mm	B mm	C mm	Weight kg
066267	Valve unit F $\frac{1}{2}$ " with one transition fitting M $\frac{1}{2}$ "	20	90	62	104	0.67
066268	Valve unit F ³ / ₄ " with one transition fitting M ³ / ₄ "	45	102	70	107	0.81
066269	Valve unit F 1" with one transition fitting M 1"	60	114	81	112	1.06
066270	Valve unit F 1 ¹ / ₄ " with one transition fitting M 1 ¹ / ₄ "	100	117	79	117	1.26

LK 527 2W - MALE THREAD





Article no.	Article	Kvs m³/h	A mm	C mm	Weight kg
066271	Valve unit M ¾" with transition fitting M ½"	20	119	104	0.74
066272	Valve unit M 1" with transition fitting M 3/4"	45	138	107	0.92
066273	Valve unit M 1¼" with transition fitting M 1"	60	149	112	1.22
066274	Valve unit M 1 ¹ / ₂ " with transition fitting M 1 ¹ / ₄ "	100	158	117	1.51



LK 527 2W - COMPRESSION FITTING







Article no.	Article	Kvs m³/h	A mm	C mm	Weight kg
066275	Valve unit 15 mm	20	62	104	0.64
066276	Valve unit 22 mm	45	72	107	0.78
066277	Valv unit 28 mm	60	82	112	0.98

LK 527 2W - MALE THREAD







Article no.	Article	Kvs m³/h	A mm	C mm	Weight kg
066278	Valve unit M ¾"	20	62	104	0.62
066279	Valve unit M 1"	45	74	107	0.75
066280	Valve unit M 1¼"	60	82	112	0.96
066281	Valve unit M 1 ¹ / ₂ "	100	83	117	1.12

LK 527 ACTUATOR







109,5



*Only for valve units up to 1"



LK 527 MultiZone 3W



TECHNICAL DATA

Working temperatureMin. +2°C / Max. +110°CAmbient temp.Min. +1°C / Max. +55°CMax. working pressure3,2 MPa (32 bar)Max. differential pressure600 kPa (6 bar)MediaWater - Glycol mixture max. 50%Thread standardR - male thread,

Material, valve body Material, ball Actuator Protection class

Cable specification:

Dimension Wire colours External insulation Electrical connection Signal connector 3 x 0,75 mm² Blue, brown, black PVC Fixed wire 3-Point SPDT

Rp - female thread,

G - male thread

Brass CW617N

Brass CW617N

230 VAC, 50 Hz

IP 44

Type approval certificate - Actuator CE Type approval certificate - Valve 🔊 LK 527 MultiZone is a motorized 3-way ball valve for applications in, for example heating, cooling and domestic water systems.

The zone valve is controlled by 3-point signal.

Assembly/disassembly of actuator on the ball valve is simple and secure, using the clip-system.

The zone valve must not be installed with the actuator underneath the valve unit.

In case of a power failure, the valve stays in its current position. When the power is switched off, the valve can be manually set by the handle on the actuator.

Please note that the actuator can be installed in only one position.

WIRING DIAGRAM





Ks (m³/h) 10,0

CAPACITY DIAGRAM



LK 527 3W - Female Thread







Article no.	Article	Kvs m³/h	A mm	B mm	C mm	Weight kg
066252	Valve unit F ¾"	9.6	40	68	104	0.76
066253	Valve unit F 1"	11.3	43	81	107	0.96
066254	Valve unit F 1¼"	25	52	86	114	1.25

LK 527 3W - Male Thread







Article no.	Article	Kvs m³/h	A mm	B mm	C mm	Weight kg
066255	Valve unit M 1" with transition fitting M ³ / ₄ "	9.6	72	136	104	1.06
066256	Valve unit M 1¼" with Transition fitting M 1"	11.3	76	152	107	1.52
066257	Valve unit M 1 ¹ / ₂ " with Transition fitting M 1 ¹ / ₄ "	25	89	165	134	2.06

LK 527 3W - Male thread







Article no.	Article	Kvs m³/h	A mm	B mm	C mm	Weight kg
066258	Valve unit M 1"	9.6	40	72	104	0.78
066259	Valve unit M 1¼"	11.3	43	85	107	1.0
066260	Valve unit M 1 ¹ / ₂ "	25	52	90	134	1.33



LK 527 3W - COMPRESSION FITTING







Article no.	Article	Kvs m³/h	A mm	B mm	C mm	Weight kg
066261	Valve unit 22 mm	9.6	41	72	107	0,84
066262	Valve unit 28 mm	11.3	42	85	134	1.05

LK 527 Actuator







Article no.	Article	Voltage	Torque	Operation time
066284	3-point SPDT output With cable 1000 mm	230 V	5 Nm	20s / 90°
066285	3-point SPDT output With cable 1000 mm	230 V	5 Nm	40s / 90°
066286	3-point SPDT output With cable 1000 mm	230 V	5 Nm	80s / 90°
066287	3-point SPDT output With cable 1000 mm	230 V	5 Nm	110s / 90°



LK 810 ThermoMat 2.0 G



TECHNICAL DATA

Voltage	230 VA
Power consumption	Max. 52
Max. boiler efficiency	65 kW a
Return temperature	55°C,6
Working temperature	Min. +5
Ambient temp.	Min. +5
Max. working pressure	1,0 MP
Media	Water -
Thread standard	Rp - fei
Thread standard Circulating pumps	Rp - fei Grundf
Thread standard Circulating pumps Material, valve body	Rp - fer Grundf Brass E
Thread standard Circulating pumps Material, valve body Material, insulation	Rp - fer Grundf Brass E Expand

30 VAC 50 Hz Max. 52 W 55 kW at 20°C ∆T 55°C, 60°C, 65°C or 70°C Min. +5°C/Max. +110°C Min. +5°C/Max. +60°C ,0 MPa (10 bar) Vater - Glycol mixture max. 50% Rp - female thread Grundfos UPM3 AUTO L Brass EN 1982 CB753S Expanded Polypropylene EPP

LK 810 ThermoMat 2.0 G is a loading unit for heating applications with solid fuel boilers and storage tanks. The loading unit is intended to ensure a high return temperature as well as an optimal temperature stratification in the storage tank, thus increasing the efficiency of the system. Tarring and condensation are prevented which prolongs boiler life.

The LK 810 ThermoMat 2.0 G is a compact design with an integrated low-energy circulating pump, that fulfills the requirements of ErP 2015, and a thermic loading valve that regulates on two ports. The loading unit has three ball valves to simplify installation and maintenance, three thermometers that allow for simple control of the loading process and an insulation to minimize heat loss. The loading unit is available in two versions - with or without check valve. With a check valve the functions described under phase 4 will be obtained.

LK 810 ThermoMat 2.0 G is installed in the return circuit between the solid fuel boiler and the storage tank. The unit should be mounted upright with the drive-shaft of the circulating pump in a horizontal position. The loading unit is reversible and can easily be adapted for mounting to the right or left of the boiler.

The loading unit normally requires no maintenance. The installation should be checked regularly. Thanks to the three ball valves any part can be changed without draining the system in case of servicing.

THE FUNCTION OF THE LOADING UNIT DURING THE DIFFERENT PHASES OF HEATING:

1. Heat up phase

The water circulates between boiler and loading unit while the temperature of the boiler is rising.



2. Loading phase

The thermostatic element starts to open and allows return water from the storage tank to be mixed with supply water before it returns to the boiler. The return temperature to the boiler is kept constant.



3. End phase

The thermostatic element is fully open and the bypass is closed. This results in an optimal transfer of heat from the boiler and the storage tank is filled with supply water.



4. Self-circulation with check valve

Self-circulation will be obtained as soon as the fire has gone out and the circulating pump has stopped. The remaining hot water is loaded to the storage tank. In case of power failure or pump breakdown the check valve automatically opens to allow self-circulation. The check valve also stops recirculation from storage tank to boiler.







BOILER CAPACITY DIAGRAM, UPM3 AUTO L



WITH CHECK VALVE





LK 810 2.0 G - Female thread







Article no.	Туре	Return temperature	Dimension	A mm	B mm	C mm	D mm	E mm	Fmm
181639	without checkvalve	55 °C	F 1"	208	195	193	253	82	120
181640	with check valve	55 °C	F 1"	208	195	193	253	82	120
181641	without check valve	55 °C	F 1¼"	208	195	193	253	82	120
181642	with check valve	55 °C	F 1¼"	208	195	193	253	82	120
181645	without check valve	60 °C	F 1"	208	195	193	253	82	120
181646	with check valve	60 °C	F 1"	208	195	193	253	82	120
181647	without checkvalve	60 °C	F 1¼"	208	195	193	253	82	120
181648	with check valve	60 °C	F 1¼"	208	195	193	253	82	120
181651	without checkvalve	65 °C	F 1"	208	195	193	253	82	120
181652	with check valve	65 °C	F 1"	208	195	193	253	82	120
181653	without checkvalve	65 °C	F 1¼"	208	195	193	253	82	120
181654	with check valve	65 °C	F 1¼"	208	195	193	253	82	120
181657	without checkvalve	70 °C	F 1"	208	195	193	253	82	120
181658	with check valve	70 °C	F 1"	208	195	193	253	82	120
181659	without checkvalve	70 °C	F 1¼"	208	195	193	253	82	120
181660	with check valve	70 °C	F 1¼"	208	195	193	253	82	120

LK 810 2.0 G - COMPRESSION FITTING





Article no.	Туре	Return temperature	Dimension	A mm	B mm	C mm	D mm	E mm	F mm
181643	without check valve	55 °C	28 mm	208	195	193	253	82	120
181644	with check valve	55 °C	28 mm	208	195	193	253	82	120
181649	without check valve	60 °C	28 mm	208	195	193	253	82	120
181650	with check valve	60 °C	28 mm	208	195	193	253	82	120
181655	without check valve	65 °C	28 mm	208	195	193	253	82	120
181656	with check valve	65 °C	28 mm	208	195	193	253	82	120
181661	without check valve	70 °C	28 mm	208	195	193	253	82	120
181662	with check valve	70 °C	28 mm	208	195	193	253	82	120



LK 810 ThermoMat 2.0 W



TECHNICAL DATA

Voltage	230 VAC 50 Hz
Power consumption	3-76 W depending
Max. boiler efficiency	75 kW at 20°C Δ
Return temperature	55°C, 60°C, 65°C
Working temperature	Min. +5°C/Max
Ambient temp.	Min. +5°C/Max
Max. working pressure	0,6 MPa (6 bar)
Media	Water - Glycol n
Thread standard	Rp - female thre
Circulating pump	Wilo Yonos PAR
Material, valve body	Brass EN 1982 C
Material, insulation	Expanded Polyp

30 VAC 50 Hz -76 W depending on pump speed 5 kW at 20°C ΔT 5°C, 60°C, 65°C or 70°C Ain. +5°C/Max. +95°C Ain. +5°C/Max. +60°C A MPa (6 bar) Vater - Glycol mixture max. 50% &p - female thread Vilo Yonos PARA */7,5 RKC Brass EN 1982 CB753S Expanded Polypropylene EPP

LK 810 ThermoMat 2.0 W is a loading unit for heating applications with solid fuel boilers and storage tanks. The loading unit is intended to ensure a high return temperature as well as an optimal temperature stratification in the storage tank, thus increasing the efficiency of the system. Tarring and condensation are prevented which prolongs boiler life.

The LK 810 ThermoMat 2.0 W is a compact design with an integrated low-energy circulating pump, that fulfills the requirements of ErP 2015, and a thermic loading valve that regulates on two ports. The loading unit has three ball valves to simplify installation and maintenance, three thermometers that allow for simple control of the loading process and an insulation to minimize heat loss. The loading unit is available in two versions - with or without check valve. With a check valve the functions described under phase 4 will be obtained.

LK 810 ThermoMat 2.0 W is installed in the return circuit between the solid fuel boiler and the storage tank. The unit should be mounted upright with the drive-shaft of the circulating pump in a horizontal position. The loading unit is reversible and can easily be adapted for mounting to the right or left of the boiler.

The loading unit normally requires no maintenance. The installation should be checked regularly. Thanks to the three ball valves any part can be changed without draining the system in case of servicing.

THE FUNCTION OF THE LOADING UNIT DURING THE DIFFERENT PHASES OF HEATING:

1. Heat up phase

The water circulates between boiler and loading unit while the temperature of the boiler is rising.



2. Loading phase

The thermostatic element starts to open and allows return water from the storage tank to be mixed with supply water before it returns to the boiler. The return temperature to the boiler is kept constant.



3. End phase

The thermostatic element is fully open and the bypass is closed. This results in an optimal transfer of heat from the boiler and the storage tank is filled with supply water.

fully This heat tank

4. Self-circulation with check valve

Self-circulation will be obtained as soon as the fire has gone out and the circulating pump has stopped. The remaining hot water is loaded to the storage tank. In case of power failure or pump breakdown the check valve automatically opens to allow self-circulation. The check valve also stops recirculation from storage tank to boiler.







BOILER CAPACITY DIAGRAM, YONOS PARA*/7.5 RKC



WITH CHECK VALVE







LK 810 2.0 W - Female thread





Article no.	Туре	Return temperature	Dimension	A mm	B mm	C mm	D mm	E mm	F mm
181663	without check valve	55 °C	F 1"	216	195	193	253	82	120
181664	with check valve	55 °C	F 1"	216	195	193	253	82	120
181665	without check valve	55 °C	F 1¼"	216	195	193	253	82	120
181666	with check valve	55 °C	F 1¼"	216	195	193	253	82	120
181669	without check valve	60 °C	F 1"	216	195	193	253	82	120
181670	with check valve	60 °C	F 1"	216	195	193	253	82	120
181671	without check valve	60 °C	F 1¼"	216	195	193	253	82	120
181672	with check valve	60 °C	F 1¼"	216	195	193	253	82	120
181675	without check valve	65 °C	F 1"	216	195	193	253	82	120
181676	with check valve	65 °C	F 1"	216	195	193	253	82	120
181677	without check valve	65 °C	F 1¼"	216	195	193	253	82	120
181678	with check valve	65 °C	F 1¼"	216	195	193	253	82	120
181681	without check valve	70 °C	F 1"	216	195	193	253	82	120
181682	with check valve	70 °C	F 1"	216	195	193	253	82	120
181683	without check valve	70 °C	F 1¼"	216	195	193	253	82	120
181684	with check valve	70 °C	F 1¼"	216	195	193	253	82	120

LK 810 2.0 W - COMPRESSION FITTING







Article no.	Туре	Return temperature	Dimension	A mm	B mm	C mm	D mm	E mm	F mm
181667	without check valve	55 °C	28 mm	216	195	193	253	82	120
181668	with check valve	55 °C	28 mm	216	195	193	253	82	120
181673	without check valve	60 °C	28 mm	216	195	193	253	82	120
181674	with check valve	60 °C	28 mm	216	195	193	253	82	120
181679	without check valve	65 °C	28 mm	216	195	193	253	82	120
181680	with check valve	65 °C	28 mm	216	195	193	253	82	120
181685	without check valve	70 °C	28 mm	216	195	193	253	82	120
181686	with check valve	70 °C	28 mm	216	195	193	253	82	120



... coming soon.



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