

# LOAD UNIT SERIES LTC100

The ESBE load unit series LTC100 is used to automatically and efficiently load accumulation tanks and protect solid fuel boilers from too low return temperatures, which otherwise could cause tarring, reduced output and shorter life span of the boiler.

## OPERATION

The ESBE series LTC100 is a load unit designed to protect the boiler from return temperatures that are too low. Maintaining a high and stable return temperature enables a higher level of boiler efficiency, reduced tarring and increased life span of the boiler.

The LTC100 is used in heating applications where solid fuel boilers are used to feed storage tanks.

## FUNCTION

The load unit consists of an integrated pump and thermic valve, designed to make both assembly and handling easy. The load unit is protected by an insulation shell and is fitted with easily readable thermometers.

The valve regulates on two ports, which makes it easy to install and does not require any adjustment valve in the bypass pipe.

The LTC100 has an integrated auto-circulation function which makes the unit operational even during power failure or pump failure. The circulation function is blocked at delivery, but can easily be activated if required.

The valve contains a thermostat which begins to open the connection A at 50°C, 55°C, 60°C, 65°C, 70°C or 75°C and opens the connection fully as it reaches a 10°C higher temperature.

## MEDIA

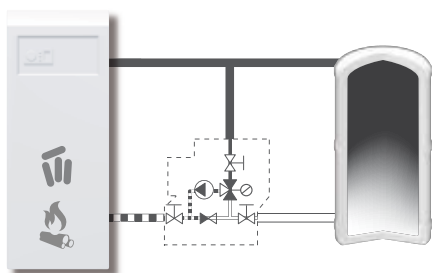
Maximum 50% glycol for freezing protection and oxygen absorbing compounds are allowed as additives. As both the viscosity and the thermal conduction are affected when glycol is added to the system water, this fact has to be considered when dimensioning the unit.

## SERVICE AND MAINTENANCE

The load unit is equipped with shut-down ball valves to facilitate future service.

The load unit does not need any maintenance under normal conditions. However thermostats are available and are easy to replace if necessary.

## INSTALLATION EXAMPLE



## LOAD UNIT LTC100 DESIGNED FOR

- Heating
- Comfort Cooling
- Potable water
- Floor heating
- Solar heating
- Ventilation
- Zone
- District Hot Water
- District Heating
- District Cooling

## OPTIONS

- Thermostat 50°C \_\_\_\_\_ Art. No. 5702 01 00
- Thermostat 55°C \_\_\_\_\_ Art. No. 5702 02 00
- Thermostat 60°C \_\_\_\_\_ Art. No. 5702 03 00
- Thermostat 65°C \_\_\_\_\_ Art. No. 5702 08 00
- Thermostat 70°C \_\_\_\_\_ Art. No. 5702 04 00
- Thermostat 75°C \_\_\_\_\_ Art. No. 5702 05 00

## TECHNICAL DATA

Pressure class: \_\_\_\_\_ PN 6  
 Temperature of medium: \_\_\_\_\_ max. 110°C  
 \_\_\_\_\_ min. 0°C  
 Ambient temperature: \_\_\_\_\_ max. 60°C  
 \_\_\_\_\_ min. 0°C  
 Leakrate A - AB: \_\_\_\_\_ max. 0,5% of max. flow ( $Q_{max}$ )  
 Leakrate B - AB: \_\_\_\_\_ max. 3% of max. flow ( $Q_{max}$ )  
 Rangeability  $K_v/K_{vmin}$ : \_\_\_\_\_ 100  
 Supply voltage: \_\_\_\_\_ 230 ± 10% VAC, 50 Hz  
 Power consumption: \_\_\_\_\_ LTC140, 65W  
 \_\_\_\_\_ LTC170, 132W  
 Energy classification: \_\_\_\_\_ C  
 Connections: \_\_\_\_\_ Internal thread, ISO 7/1

## Material

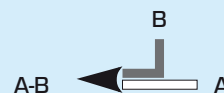
Valve body and cover: \_\_\_\_\_ Nodular iron EN-JS 1050

CE LVD 2006/95/EC  
 EMC 2004/108/EC  
 RoHS 2002/95/EC  
 PED 97/23/EC, article 3.3

Pressure Equipment in conformity with PED 97/23/EC, article 3.3 (sound engineering practice).

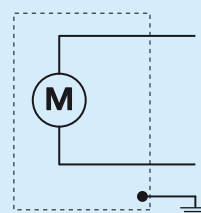
According to the directive the equipment shall not carry any CE-mark.

## FLOW PATTERN

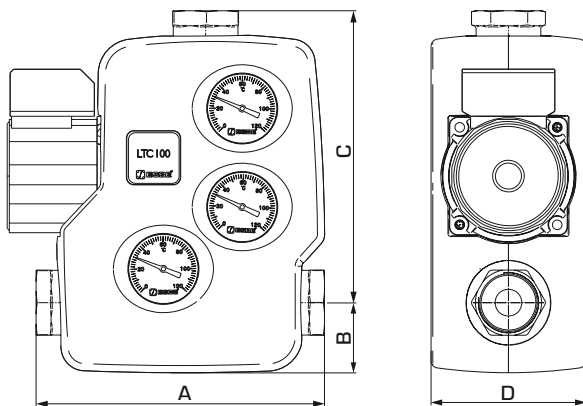


## WIRING

The pump should be preceded by a multi-pole contact breaker in the fixed installation.



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## LOAD UNIT SERIES LTC141, INTERNAL THREAD

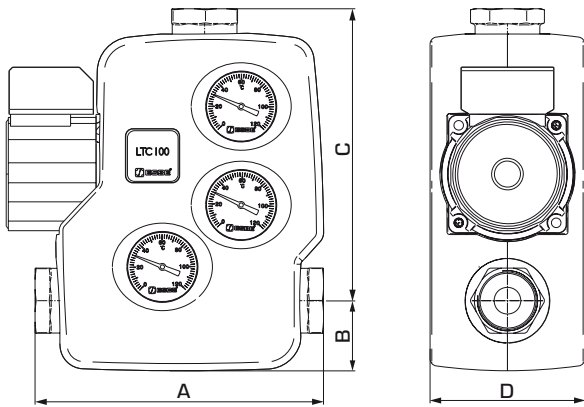
Art. No.	Reference	DN	Connection Adapter	Power [kW] (max. Δt)	Opening temperature	A	B	C	D	Weight [kg]	
5500 01 00	LTC141	25	Rp 1"	85	40	50°C	205	50	207	110	4.75
5500 02 00	LTC141	25	Rp 1"	75	35	55°C	205	50	207	110	4.75
5500 03 00	LTC141	25	Rp 1"	65	30	60°C	205	50	207	110	4.75
5500 11 00	LTC141	25	Rp 1"	55	25	65°C	205	50	207	110	4.75
5500 04 00	LTC141	25	Rp 1"	45	20	70°C	205	50	207	110	4.75
5500 05 00	LTC141	25	Rp 1"	35	15	75°C	205	50	207	110	4.75
5500 06 00	LTC141	32	Rp 1 1/4"	85	40	50°C	235	50	222	110	4.90
5500 07 00	LTC141	32	Rp 1 1/4"	75	35	55°C	235	50	222	110	4.90
5500 08 00	LTC141	32	Rp 1 1/4"	65	30	60°C	235	50	222	110	4.90
5500 12 00	LTC141	32	Rp 1 1/4"	55	25	65°C	235	50	222	110	4.90
5500 09 00	LTC141	32	Rp 1 1/4"	45	20	70°C	235	50	222	110	4.90
5500 10 00	LTC141	32	Rp 1 1/4"	35	15	75°C	235	50	222	110	4.90

## LOAD UNIT SERIES LTC143, COMPRESSION FITTING

Art. No.	Reference	DN	Connection Adapter	Power [kW] (max. Δt)	Opening temperature	A	B	C	D	Weight [kg]	
5500 13 00	LTC143	25	CPF 28 mm	85	40	50°C	220	50	215	110	5.0
5500 14 00	LTC143	25	CPF 28 mm	75	35	55°C	220	50	215	110	5.0
5500 15 00	LTC143	25	CPF 28 mm	65	30	60°C	220	50	215	110	5.0
5500 23 00	LTC143	25	CPF 28 mm	55	25	65°C	220	50	215	110	5.0
5500 16 00	LTC143	25	CPF 28 mm	45	20	70°C	220	50	215	110	5.0
5500 17 00	LTC143	25	CPF 28 mm	35	15	75°C	220	50	215	110	5.0
5500 18 00	LTC143	32	CPF 35 mm	85	40	50°C	220	50	215	110	5.0
5500 19 00	LTC143	32	CPF 35 mm	75	35	55°C	220	50	215	110	5.0
5500 20 00	LTC143	32	CPF 35 mm	65	30	60°C	220	50	215	110	5.0
5500 24 00	LTC143	32	CPF 35 mm	55	25	65°C	220	50	215	110	5.0
5500 21 00	LTC143	32	CPF 35 mm	45	20	70°C	220	50	215	110	5.0
5500 22 00	LTC143	32	CPF 35 mm	35	15	75°C	220	50	215	110	5.0

CPF = compression fitting

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## LOAD UNIT SERIES LTC171, INTERNAL THREAD

Art. No.	Reference	DN	Connection Adapter	Power [kW] (max. Δt)		Opening temperature	A	B	C	D	Weight [kg]
5500 25 00	LTC171	40	Rp 1 1/2"	120	40	50°C	246	50	228	110	5.7
5500 26 00	LTC171	40	Rp 1 1/2"	105	35	55°C	246	50	228	110	5.7
5500 27 00	LTC171	40	Rp 1 1/2"	90	30	60°C	246	50	228	110	5.7
5500 35 00	LTC171	40	Rp 1 1/2"	75	25	65°C	246	50	228	110	5.7
5500 28 00	LTC171	40	Rp 1 1/2"	60	20	70°C	246	50	228	110	5.7
5500 29 00	LTC171	40	Rp 1 1/2"	45	15	75°C	246	50	228	110	5.7
5500 30 00	LTC171	50	Rp 2"	140	40	50°C	246	50	228	110	6.0
5500 31 00	LTC171	50	Rp 2"	120	35	55°C	246	50	228	110	6.0
5500 32 00	LTC171	50	Rp 2"	100	30	60°C	246	50	228	110	6.0
5500 36 00	LTC171	50	Rp 2"	80	25	65°C	246	50	228	110	6.0
5500 33 00	LTC171	50	Rp 2"	65	20	70°C	246	50	228	110	6.0
5500 34 00	LTC171	50	Rp 2"	50	15	75°C	246	50	228	110	6.0