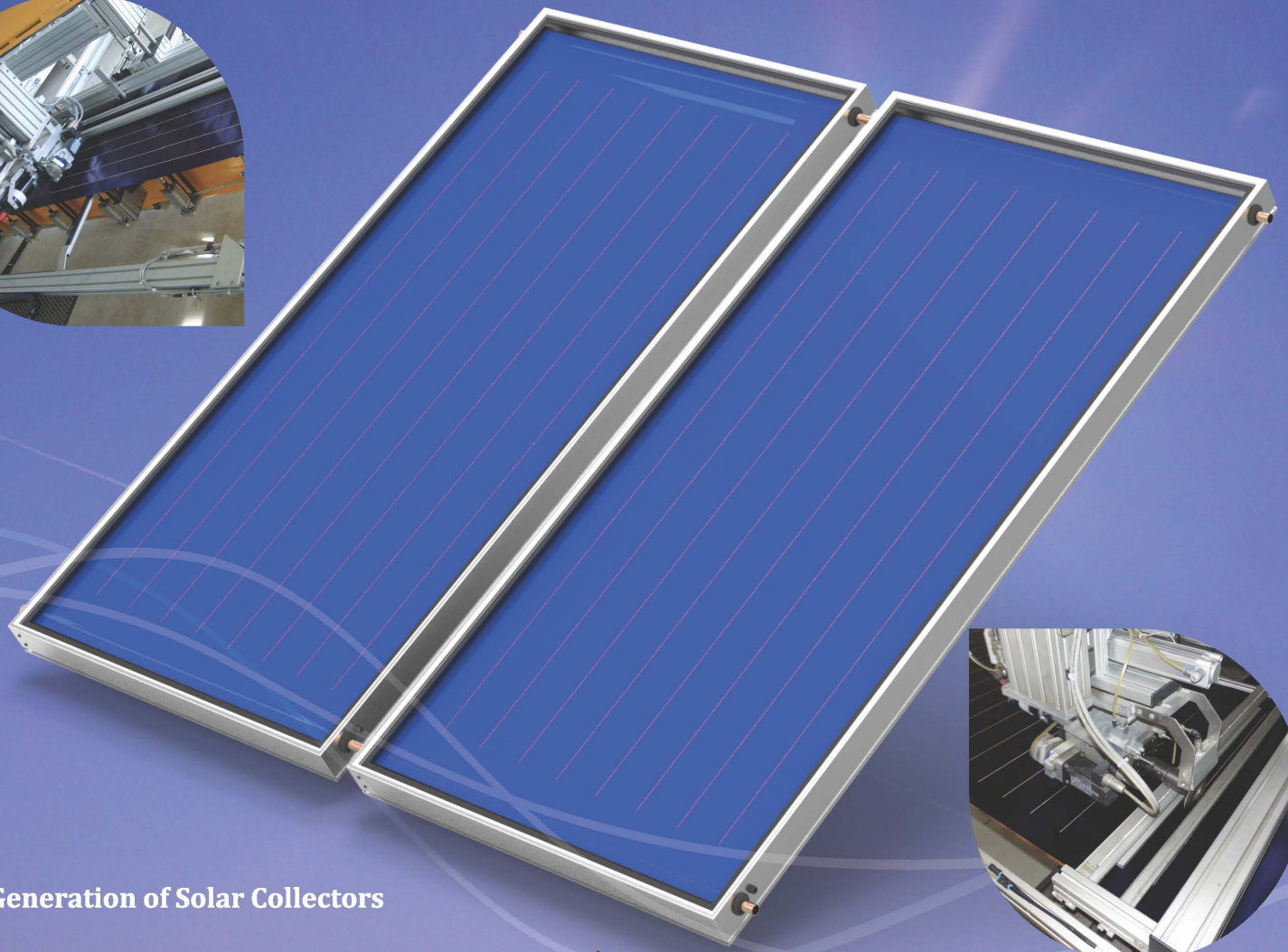
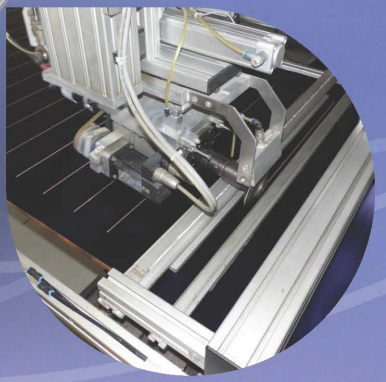

ENERGY
SAVING
SYSTEMS
ΘΗΣΕΝ
SOLAR SYSTEMS
place
the sun
in your
house



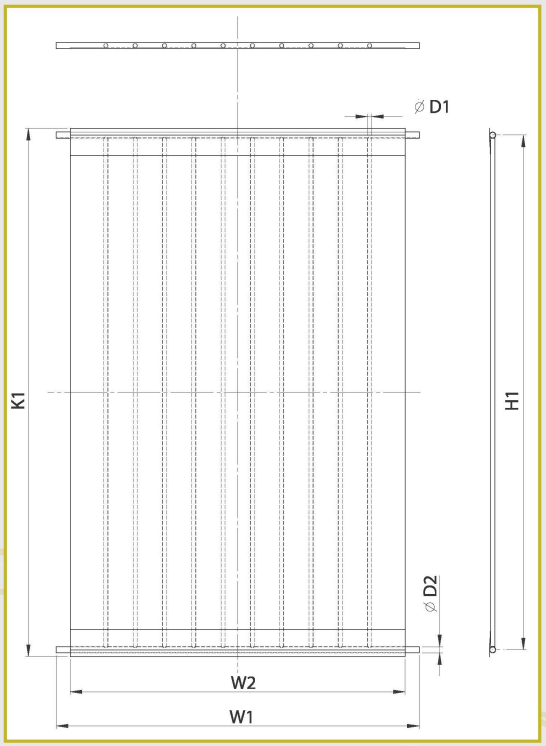


New Generation of Solar Collectors

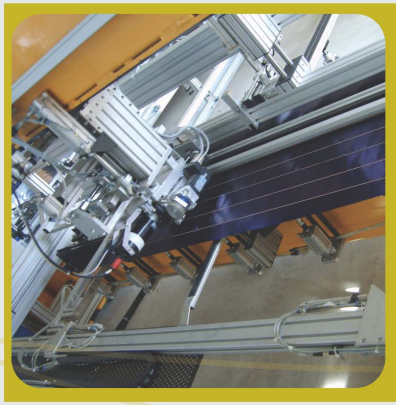
Absorber

Copper - CU - DHP(cw024A) EN1057

Type	# vertical tubes	D1 [mm]	D2 [mm]	W1 [mm]	W2 [mm]	K1 [mm]	H1 [mm]
ABS-2.4-F15	11	15	22	1300	1200	1890	1842
ABS-2.4-F8	11	8	22	1300	1200	1890	1842
ABS-2.0-F15	8	15	22	1050	950	1890	1842
ABS-2.0-F8	8	8	22	1050	950	1890	1842
ABS-1.5-F15	8	15	22	1050	950	1390	1342
ABS-1.5-F8	8	8	22	1050	950	1390	1342



Type	Water volume [Ltr]	Selective surface [m^2]	Thickness of surface		Maximum linear dilatation ($\Delta\theta$=100°C)	
			Cu [mm]	Al [mm]	Cu [mm]	Al [mm]
ABS-2.4-F15	3.650	2.268	0.12	0.30	3.1314	4.0524
ABS-2.4-F8	1.771	2.268	0.18	0.30	3.1314	4.0524
ABS-2.0-F15	3.075	1.796	0.12	0.30	3.1314	4.0524
ABS-2.0-F8	1.426	1.796	0.18	0.30	3.1314	4.0524
ABS-1.5-F15	2.304	1.321	0.12	0.30	2.2814	2.9524
ABS-1.5-F8	1.214	1.321	0.18	0.30	2.2814	2.9524

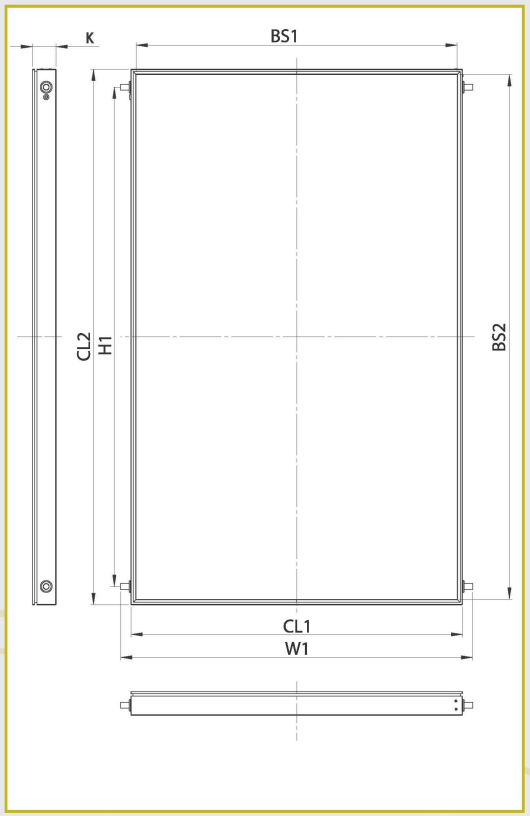


. Ultrasonic welding system

. Copper pipes and Selective full plate copper/aluminum surface

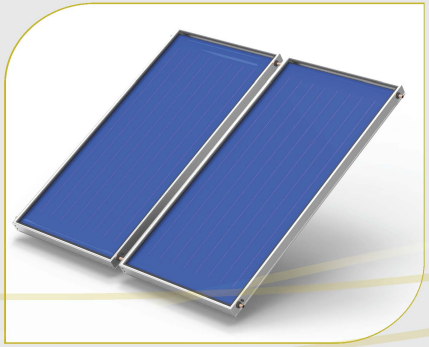
. Blue selective coating

Collector



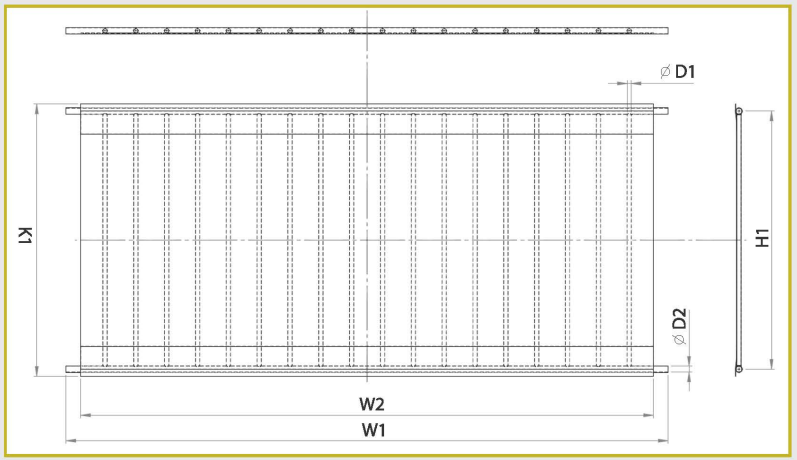
Type	Absorber Type	K [mm]	CL1 [mm]	CL2 [mm]	BS1 [mm]	BS2 [mm]	Effective Surface Area [m^2]
TH.S.P-2.4-Φ15	ABS-2.4-F15	87	1225	1975	1185	1935	2.293
TH.S.P-2.4-Φ8	ABS-2.4-F8	87	1225	1975	1185	1935	2.293
TH.S.P-1.9-Φ15	ABS-2.0-F15	87	975	1975	935	1935	1.809
TH.S.P-1.9-Φ8	ABS-2.0-F8	87	975	1975	935	1935	1.809
TH.S.P-1.4-Φ15	ABS-1.5-F15	87	975	1475	911	1411	1.285
TH.S.P-1.4-Φ8	ABS-1.5-F8	87	975	1475	911	1411	1.285

Type	Net weight (without working fluid) [kg]	Net weight (with working fluid) [kg]
TH.S.P-2.4-Φ15	39.20	39.20+3.65= 42.85
TH.S.P-2.4-Φ8	38.20	38.20+1.77= 39.97
TH.S.P-1.9-Φ15	32.00	33.00+3.08= 36.08
TH.S.P-1.9-Φ8	31.75	31.75+1.58= 33.33
TH.S.P-1.4-Φ15	23.85	23.85+2.30= 26.15
TH.S.P-1.4-Φ8	23.70	23.70+1.21= 24.91



Horizontal Panels

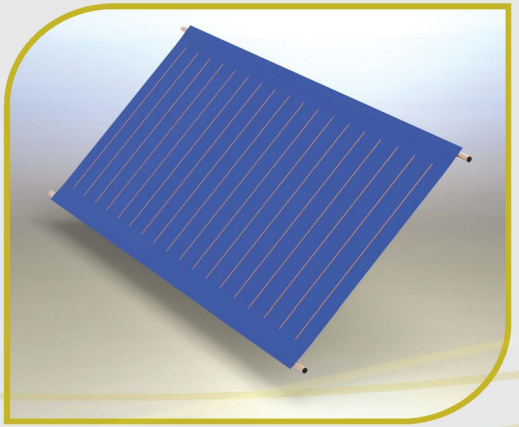
Absorber



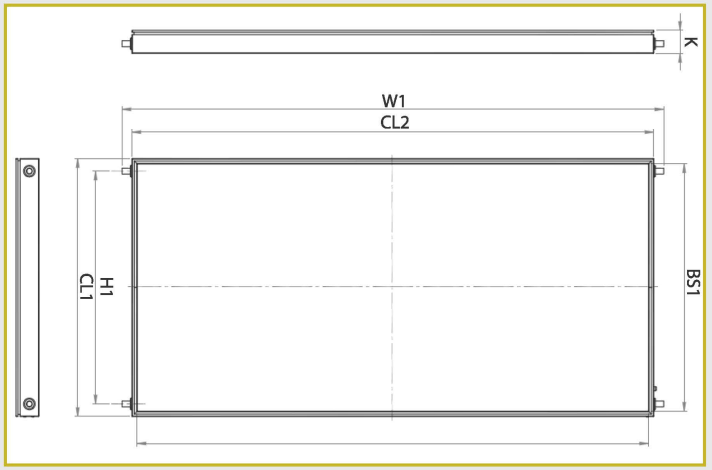
Type	Water volume [Ltr]	Selective surface [m^2]
ABS-2.4H-F15	4.389	2.298
ABS-2.0H-F15	3.696	1.810
ABS-1.5H-F15	2.846	1.346

Type	Thickness of surface		Maximum linear dilatation ($\Delta\theta$=100°C)	
	Cu [mm]	Al [mm]	Cu [mm]	Al [mm]
ABS-2.4H-F15	0.12	0.30	1.921	2.486
ABS-2.0H-F15	0.12	0.30	1.496	1.936
ABS-1.5H-F15	0.12	0.30	1.496	1.936

Type	# vertical tubes	D1 [mm]	D2 [mm]	W1 [mm]	W2 [mm]	K1 [mm]	H1 [mm]
ABS-2.4H-F15	18	15	22	2050	1950	1200	1130
ABS-2.0H-F15	18	15	22	2050	1950	950	880
ABS-1.5H-F15	14	15	22	1550	1450	950	880

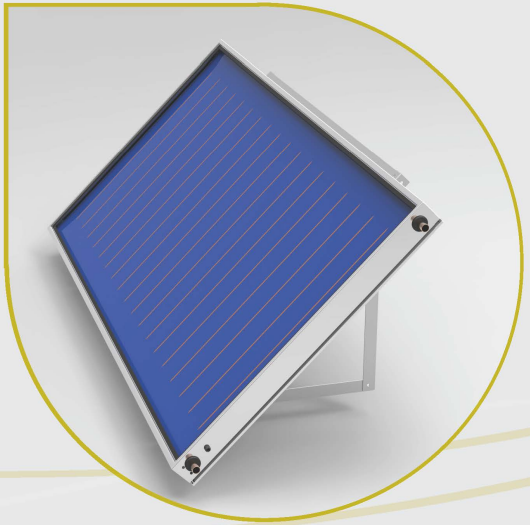


Collector



Type	Net weight (without working fluid) [kg]	Net weight (with working fluid) [kg]
TH.S.P-2.4H-Φ15	39.60	39.60+4.39= 43.99
TH.S.P-1.9H-Φ15	32.95	32.95+3.70= 36.65
TH.S.P-1.4H-Φ15	24.90	24.90+2.85= 27.75

Type	Absorber Type	K [mm]	CL1 [mm]	CL2 [mm]	BS1 [mm]	BS2 [mm]	Effective Surface Area [m^2]
TH.S.P-2.4H-Φ15	ABS-2.4H-F15	87	1224	1975	1185	1935	2.293
TH.S.P-1.9H-Φ15	ABS-2.0H-F15	87	975	1975	935	1935	1.809
TH.S.P-1.4H-Φ15	ABS-1.5H-F15	87	975	1475	935	1435	1.285

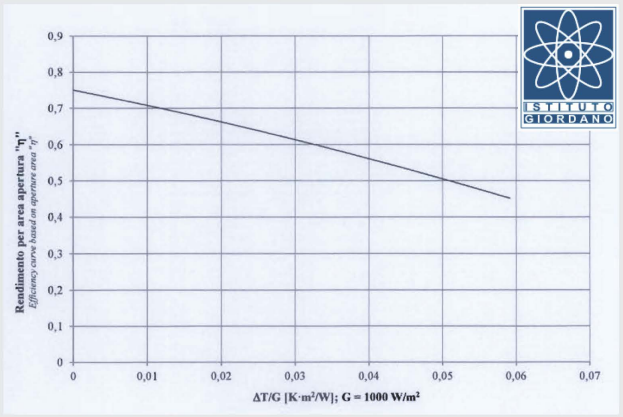


TH.S.P1.9-Φ15 Collector

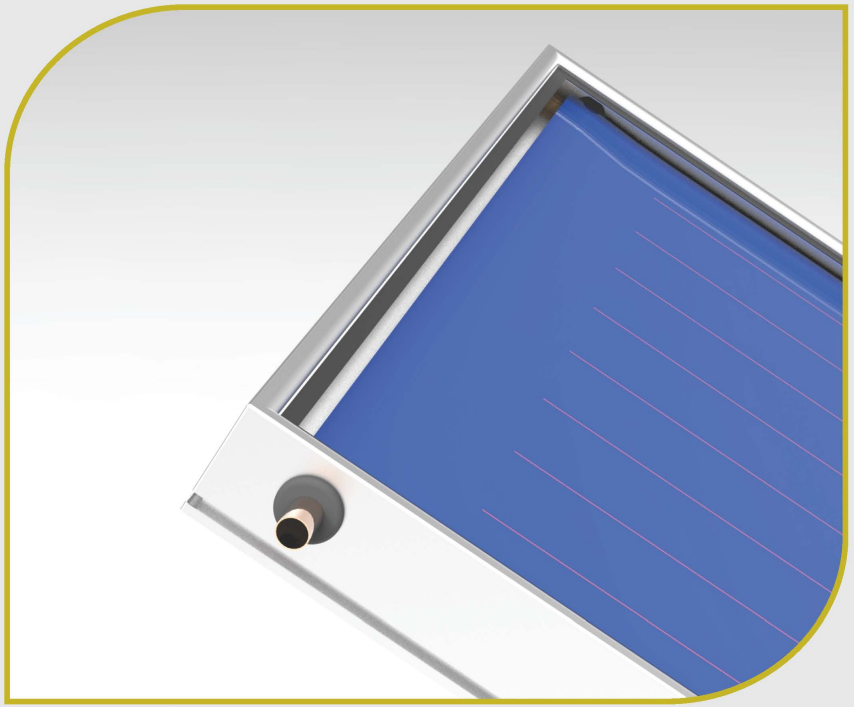
Solar Keymark Certification

Certificate No: 075BN/0

. EPDM high quality products
. Gasket Linen
. Pressure out



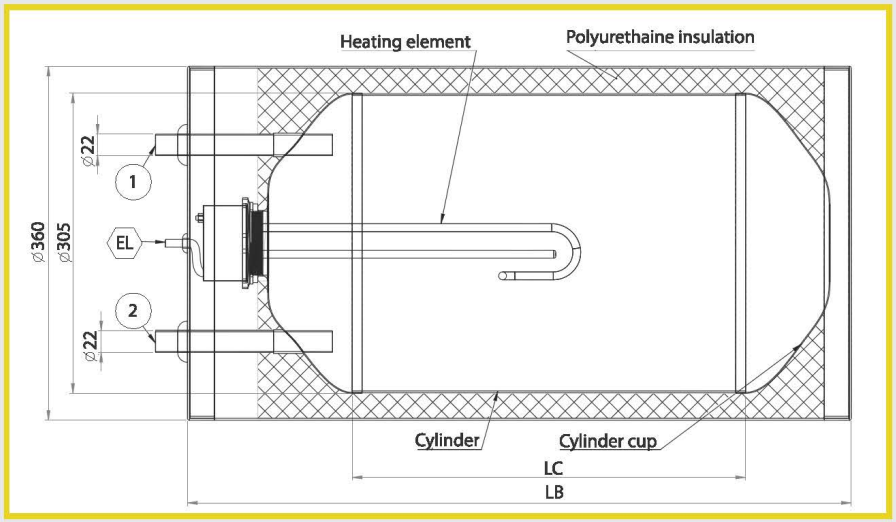
Instantaneous efficiency curve based on aperture area (G=1000W/m^2)



Differenza di temperatura *Difference between temperatures* $t_m - t_a$ [°C]	Potenza in uscita *Power output* Irradianza *Irradiance* 400 W/m² [W]	Irradianza *Irradiance* 700 W/m² [W]	Irradianza *Irradiance* 1000 W/m² [W]
10	492 ± 8	861 ± 13	1230 ± 19
30	426 ± 7	746 ± 11	1065 ± 16
50	351 ± 5	614 ± 9	878 ± 13

Power output per collector unit (G=1000W/m^2)

Small Boilers

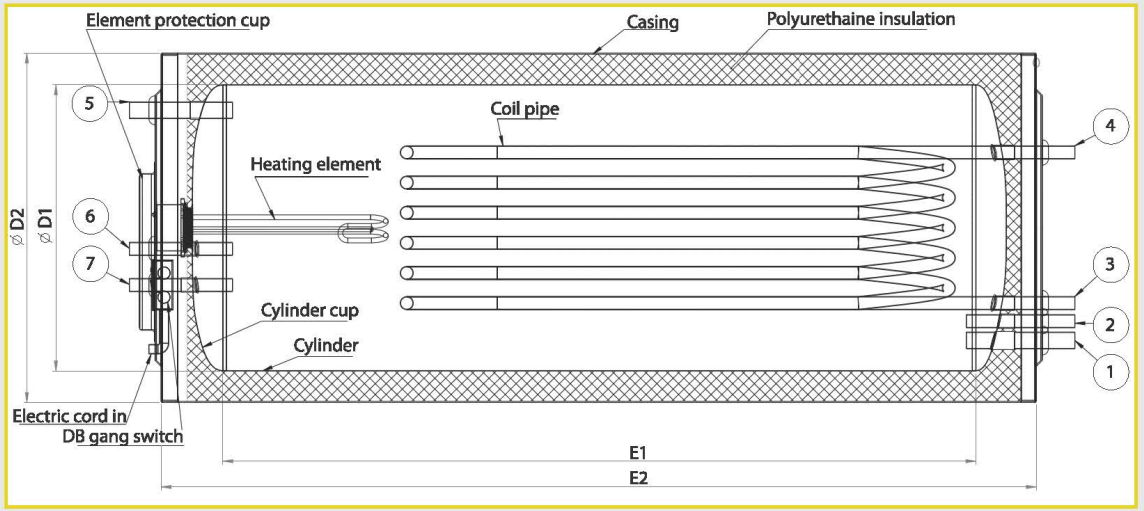


Fitting	Description
1	OUT hot water
2	IN Cold water
el	Electric cord

Dimension / Type	Lc (mm)	LB (mm)	Water Volume (Lt)	Cylinder Thickness (mm)	Cylinder Cup Thickness (mm)
BL-S-22L	200	470	22	$1,5^{+0.1}_{-0.1}$	$1,5^{+0.1}_{-0.1}$
BL-S-29L	300	570	29	$1,5^{+0.1}_{-0.1}$	$1,5^{+0.1}_{-0.1}$
BL-S-36L	400	670	36.5	$1,5^{+0.1}_{-0.1}$	$1,5^{+0.1}_{-0.1}$
BL-S-44L	500	770	44	$1,5^{+0.1}_{-0.1}$	$1,5^{+0.1}_{-0.1}$
BL-S-51L	600	870	51	$1,5^{+0.1}_{-0.1}$	$1,5^{+0.1}_{-0.1}$

PART	DESCRIPTION		TECHNICAL SPECIFICATIONS	
Casing	Pre-coated Galvanized steel / stainless steel		QCD-FIN-F14/V-5	
Cylinder	Copper		CU-DHP (CW024A) / EN1652	
Cylinder Cup	Copper		CU-DHP (CW024A) / EN1652	
Insulation	Polyurethane (λ=0,023W/mK , ρ=40kg/m^3, reaction to fire: class B3)		DIN 52612	
Heating Element			BS699 / BS1566 / BS3198 /BS6141	
Element Protection Cup	Galvanized sheet metal		QCD-FIN-F14/V-5	
WELDMENTS	MIG		L-CUP7 DIN EN CP202	
Piping	MATERIAL	TECHNICAL SPECIFICATIONS	CONNECTION	TECHNICAL SPECIFICATIONS
1	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
2	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Safety Valve 5 Bar & Expansion Tank	E-30-20061-07 97/23/EC

150L - 250L Boilers (Low Pressure)



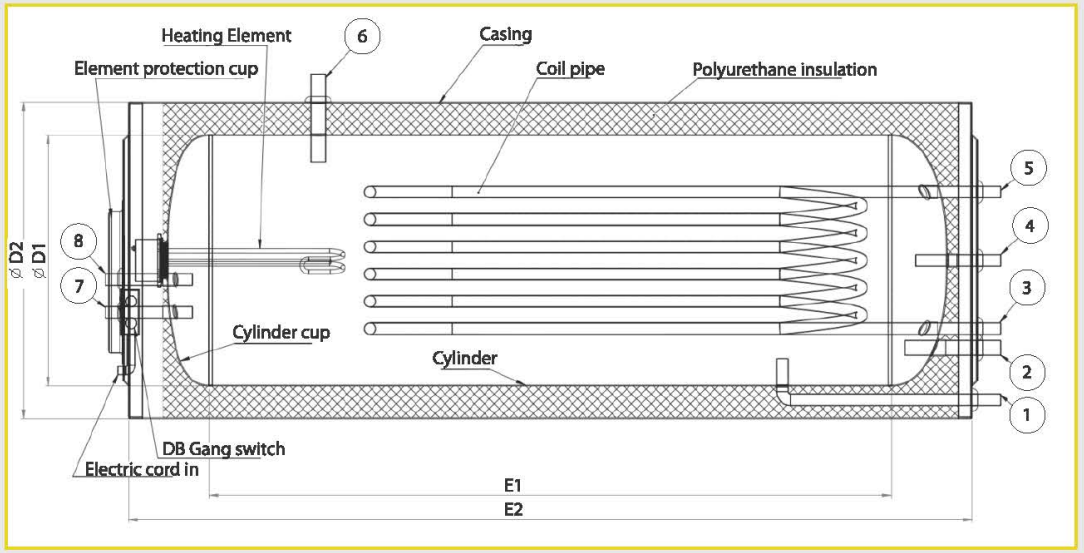
Dimension / Type	E1 (mm)	E2 (mm)	D1 (mm)	D2 (mm)	Cylinder Thickness (mm)	Cylinder Cup Thickness (mm)
BL-LP-150L	750	950	475	580	$0,65^{+0,1}$	$0,7^{+0,1}$
BL-LP-200L	1000	1200	475	580	$0,65^{+0,1}$	$0,7^{+0,1}$
BL-LP-250L	1250	1450	475	580	$0,65^{+0,1}$	$0,7^{+0,1}$

Fitting	Description
1	OUT to collector panel
2	IN Cold water
3	OUT from Coil
4	IN to Coil
5	OUT hot water
6	IN from collector panel
7	Pocket

Type \ Pipe	1 (mm)	2 (mm)	3 (mm)	4 (mm)	5 (mm)	6 (mm)	7 (mm)	Heating Element	Fuse/MCB
BL-LP-150L	Ø22	Ø22	Ø22 or Ø15	Ø22 or Ø15	Ø22	Ø22	Ø22	3kW 240V/AC	20A
BL-LP-200L	Ø22	Ø22	Ø22 or Ø15	Ø22 or Ø15	Ø22	Ø22	Ø22	3kW 240V/AC	20A
BL-LP-250L	Ø22	Ø28	Ø22 or Ø28	Ø22 or Ø28	Ø28	Ø22	Ø22	3kW 240V/AC	20A

PART	DESCRIPTION		TECHNICAL SPECIFICATIONS	
Casing	Pre-coated Galvanized steel / stainless steel		QCD-FIN-F14/V-5	
Cylinder	Copper		CU-DHP (CW024A) / EN1652	
Cylinder Cup	Copper		CU-DHP (CW024A) / EN1652	
Insulation	Polyurethane (λ=0,023W/mK , ρ=40kg/m^3, reaction to fire: class B3)		DIN 52612	
Heating Element			BS699 / BS1566 / BS3198 /BS6141	
Element Protection Cup	Galvanized sheet metal		QCD-FIN-F14/V-5	
WELDMENTS	MIG		L-CUP7 DIN EN CP202	
Piping	MATERIAL	TECHNICAL SPECIFICATIONS	CONNECTION	TECHNICAL SPECIFICATIONS
1	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
2	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
3	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
4	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
5	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
6	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
7	Copper	CU-DHP (CW024A) / EN1652 /EN1057		

100L - 250L Boilers-Single Wall (High Pressure)



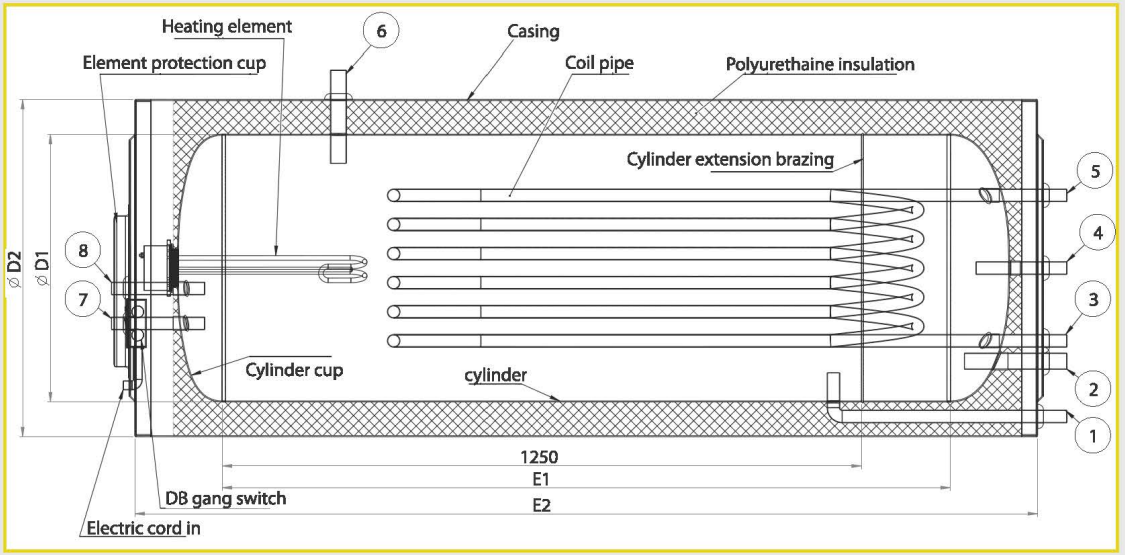
Dimension / Type	E1 (mm)	E2 (mm)	D1 (mm)	D2 (mm)	Cylinder Thickness (mm)	Cylinder Cup Thickness (mm)
BL-SW-100	750	950	370	500	$1,4^{+0,1}$	$1,8^{+0,1}$
BL-SW-150	700	1000	480	580	$1,5^{+0,1}_{-0,1}$	$1,9^{+0,1}$
BL-SW-200	950	1250	480	580	$1,5^{+0,1}_{-0,1}$	$1,9^{+0,1}$
BL-SW-250	1250	1550	480	580	$1,7^{+0,1}_{-0,1}$	$1,9^{+0,1}$

Fitting	Description
1	OUT to collector panel
2	IN Cold water
3	OUT from Coil
4	IN return
5	IN to Coil
6	OUT hot water
7	IN from collector panel
8	Thermostat pocket

Type \ Pipe	1 (mm)	2 (mm)	3 (mm)	4 (mm)	5 (mm)	6 (mm)	7 (mm)	Heating Element	Fuse/MCB
BL-SW-100	Ø22	Ø24	Ø22 or Ø15	Ø22	Ø22 or Ø15	Ø22	Ø22	3kW 240V/AC	20A
BL-SW-150	Ø22	Ø24	Ø22 or Ø15	Ø22	Ø22 or Ø15	Ø22	Ø22	3kW 240V/AC	20A
BL-SW-200	Ø22	Ø28	Ø22	Ø22	Ø22	Ø28	Ø22	3kW 240V/AC	20A
BL-SW-250	Ø22	Ø28	Ø22	Ø22	Ø22	Ø28	Ø22	3kW 240V/AC	20A

PART	DESCRIPTION		TECHNICAL SPECIFICATIONS	
Casing	Galvanized metal		QCD-FIN-F14/V-5	
Cylinder	Copper		CU-DHP (CW024A) / EN1652	
Cylinder Cup	Copper		CU-DHP (CW024A) / EN1652	
Insulation	Polyurethane (λ=0,023W/mK , ρ=40kg/m^3, reaction to fire: class B3)		DIN 52612	
Heating Element			FM 26776	
Element Protection Cup	Galvanized sheet metal		QCD-FIN-F14/V-5	
WELDMENTS	MIG		L-CUP7 DIN EN CP202	
Piping	MATERIAL	TECHNICAL SPECIFICATIONS	CONNECTION	TECHNICAL SPECIFICATIONS
1	Copper	CU-DHP (CW024A) / EN1652		
2	Copper	CU-DHP (CW024A) / EN1652	Check Valve & Expansion Tank	25Bar (-10÷ 90C) 97/23/EC
3	Copper	CU-DHP (CW024A) / EN1652		
4	Copper	CU-DHP (CW024A) / EN1652		
5	Copper	CU-DHP (CW024A) / EN1652		
6	Copper	CU-DHP (CW024A) / EN1652	Vacuum Valve	97/23/EC
7	Copper	CU-DHP (CW024A) / EN1652	Safety Valve 5 Bar	E-30-20061-07 97/23/EC
8	Copper	CU-DHP (CW024A) / EN1652		

300L - 400L Boilers-Single Wall (High Pressure)



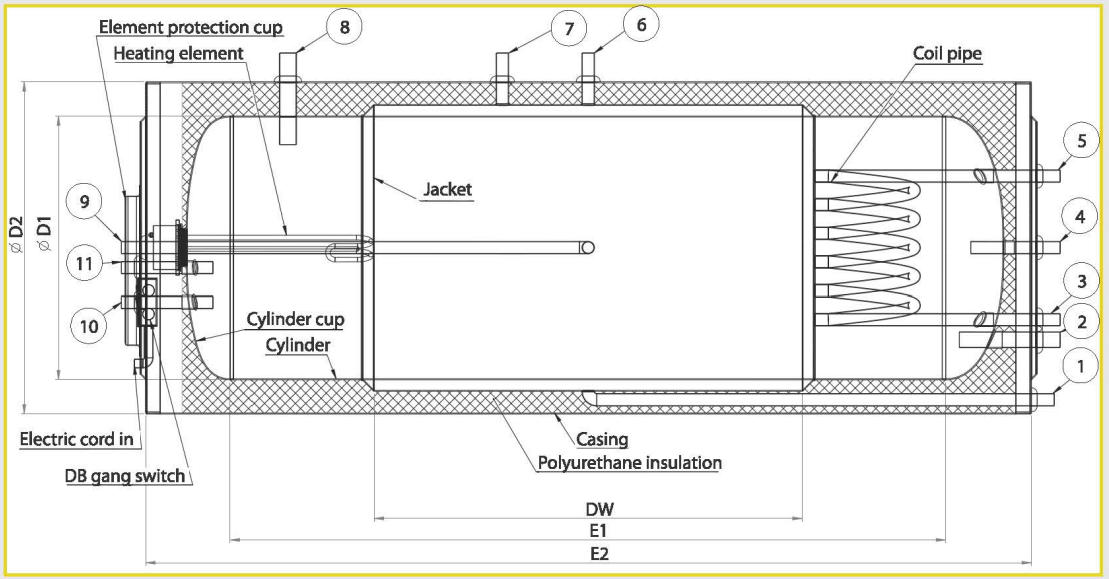
Fitting	Description
1	OUT to collector panel
2	IN Cold water
3	OUT from Coil
4	IN return
5	IN to Coil
6	OUT hot water
7	IN from collector panel
8	Thermostat pocket

Dimension / Type	E1 (mm)	E2 (mm)	D1 (mm)	D2 (mm)	Cylinder Thickness (mm)	Cylinder Cup Thickness (mm)
BL-SW-300L	1500	1800	480	580	$2,0^{+0,1}_{-0,1}$	$2,0^{+0,1}_{-0,1}$
BL-SW-350L	1750	2050	480	580	$2,0^{+0,1}_{-0,1}$	$2,0^{+0,1}_{-0,1}$
BL-SW-400L	2000	2300	480	580	$2,0^{+0,1}_{-0,1}$	$2,0^{+0,1}_{-0,1}$

Pipe / Type	1 (mm)	2 (mm)	3 (mm)	4 (mm)	5 (mm)	6 (mm)	7 (mm)	Heating Element	Fuse/MCB
BL-SW-300L	Ø22	Ø28	Ø22 or Ø28	Ø22	Ø22 or Ø28	Ø28	Ø22	3kW 240V/AC	20A
BL-SW-350L	Ø22	Ø28	Ø22 or Ø28	Ø22	Ø22 or Ø28	Ø28	Ø22	3kW 240V/AC	20A
BL-SW-400L	Ø22	Ø28	Ø22 or Ø28	Ø22	Ø22 or Ø28	Ø28	Ø22	3kW 240V/AC	20A

PART	DESCRIPTION		TECHNICAL SPECIFICATIONS	
Casing	Pre-coated Galvanized steel / stainless steel		QCD-FIN-F14/V-5	
Cylinder	Copper		CU-DHP (CW024A) / EN1652	
Cylinder Cup	Copper		CU-DHP (CW024A) / EN1652	
Insulation	Polyurethane (λ=0,023W/mK , ρ=40kg/m^3, reaction to fire: class B3)		DIN 52612	
Heating Element			BS699 / BS1566 / BS3198 /BS6141	
Element Protection Cup	Galvanized sheet metal		QCD-FIN-F14/V-5	
WELDMENTS	MIG		L-CUP7 DIN EN CP202	
Piping	MATERIAL	TECHNICAL SPECIFICATIONS	CONNECTION	TECHNICAL SPECIFICATIONS
1	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Safety Valve 5 Bar	E-30-20061-07 97/23/EC
2	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Check Valve & Expansion Tank	25Bar (-10÷ 90C) 97/23/EC
3	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
4	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
5	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
6	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Vacuum Valve	97/23/EC
7	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
8	Copper	CU-DHP (CW024A) / EN1652 /EN1057		

150L - 250L Boilers-Double Wall (High Pressure)



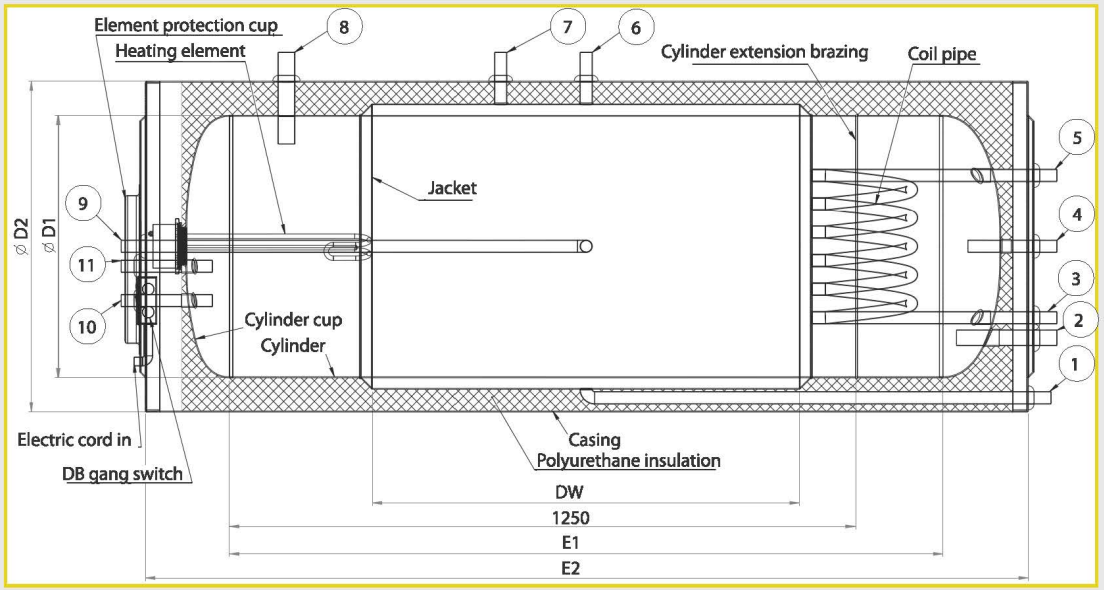
Dimension / Type	DW (mm)	E1 (mm)	E2 (mm)	D1 (mm)	D2 (mm)	Cylinder Thickness (mm)	Cylinder Cup Thickness (mm)	Jacket Thickness (mm)
BL-DW-150L	500	700	1000	480	580	$1,5^{+0,1}_{-0,1}$	$1,9^{+0,1}$	$0,9^{+0,1}$
BL-DW-200L	500	950	1250	480	580	$1,5^{+0,1}_{-0,1}$	$1,9^{+0,1}$	$0,9^{+0,1}$
BL-DW-250L	750	1250	1550	480	580	$1,7^{+0,1}_{-0,1}$	$1,9^{+0,1}$	$0,9^{+0,1}$

Piping	Description
1	OUT to collector panel
2	IN Cold water
3	OUT from Coil
4	IN return
5	IN to Coil
6	IN to Jacket
7	Ventilation Jacket
8	OUT hot water
9	IN from collector panel
10	Thermostat pocket
11	Pocket

Type	1 (mm)	2 (mm)	3 (mm)	4 (mm)	5 (mm)	6 (mm)	7 (mm)	8 (mm)	9 (mm)	9 (mm)	11 (mm)	Heating Element	Fuse/ MCB
Pipe BL-DW-150L	Ø22	Ø22	Ø 22 or Ø 15	Ø22	Ø 22 or Ø15	Ø22	Ø22	Ø22	Ø22	Ø22	Ø22	3kW 240V/AC	20A
BL-DW-200L	Ø22	Ø22	Ø22 or Ø15	Ø22	Ø22 or Ø15	Ø22	Ø22	Ø22	Ø22	Ø22	Ø22	3kW 240V/AC	20A
BL-DW-250L	Ø22	Ø28	Ø22 or Ø28	Ø22	Ø22 or Ø28	Ø22	Ø22	Ø28	Ø22	Ø22	Ø22	3kW 240V/AC	20A

PART	DESCRIPTION		TECHNICAL SPECIFICATIONS	
Casing	Pre-coated Galvanized steel / stainless steel		QCD-FIN-F14/V-5	
Cylinder	Copper		CU-DHP (CW024A) / EN1652	
Cylinder Cup	Copper		CU-DHP (CW024A) / EN1652	
Insulation	Polyurethane (λ=0,023W/mK , ρ=40kg/m^3, reaction to fire: class B3)		DIN 52612	
Heating Element			BS699 / BS1566 / BS3198 /BS6141	
Element Protection Cup	Galvanized sheet metal		QCD-FIN-F14/V-5	
WELDMENTS	MIG		L-CUP7 DIN EN CP202	
Piping	MATERIAL	TECHNICAL SPECIFICATIONS	CONNECTION	TECHNICAL SPECIFICATIONS
1	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
2	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Check Valve & Expansion Tank	25Bar (-10÷ 90C) 97/23/EC
3	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
4	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
5	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
6	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
7	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Expansion Tank & Ventilation Valve	97/23/EC
8	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Vacuum Valve	97/23/EC
9	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
10	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
11	Copper	CU-DHP (CW024A) / EN1652 /EN1057		

300L - 400L Boilers-Double Wall (High Pressure)



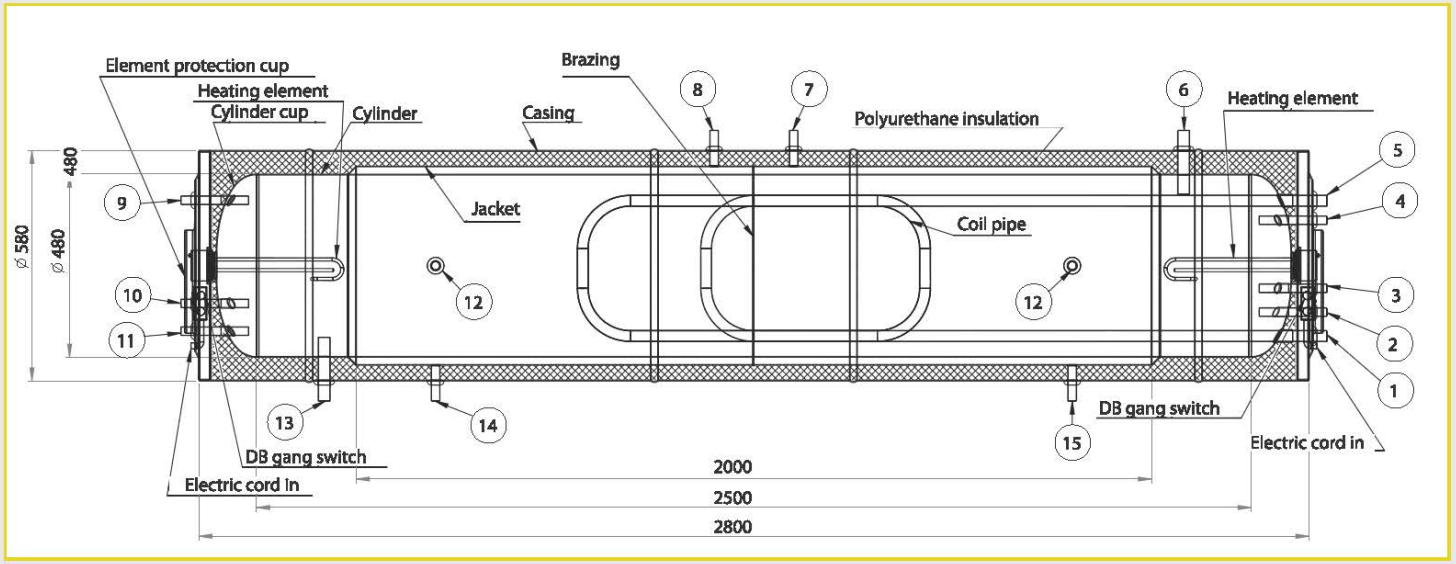
Piping	Description
1	OUT to collector panel
2	IN Cold water
3	OUT from Coil
4	IN return
5	IN to Coil
6	IN to Jacket
7	Ventilation Jacket
8	OUT hot water
9	IN from collector panel
10	Thermostat pocket
11	Pocket

Type / Type	DW (mm)	E1 (mm)	E2 (mm)	D1 (mm)	D2 (mm)	Cylinder Thickness (mm)	Cylinder Cup Thickness (mm)	Jacket Thickness (mm)
BL-DW-300L	1000	1500	1800	480	580	$2,0^{+0,1}_{-0,1}$	$2,0^{+0,1}_{-0,1}$	$0,9^{+0,1}$
BL-DW-350L	1250	1750	2050	480	580	$2,0^{+0,1}_{-0,1}$	$2,0^{+0,1}_{-0,1}$	$0,9^{+0,1}$
BL-DW-400L	1500	2000	2300	480	580	$2,0^{+0,1}_{-0,1}$	$2,0^{+0,1}_{-0,1}$	$0,9^{+0,1}$

Pipe / Type	1 (mm)	2 (mm)	3 (mm)	4 (mm)	5 (mm)	6 (mm)	7 (mm)	8 (mm)	9 (mm)	9 (mm)	11 (mm)	Heating Element	Fuse/ MCB
BL-DW-300L	Ø22	Ø28	Ø22 or Ø28	Ø22	Ø22 or Ø28	Ø22	Ø22	Ø28	Ø22	Ø22	Ø22	3kW 240V/AC	20A
BL-DW-350L	Ø22	Ø28	Ø22 or Ø28	Ø22	Ø22 or Ø28	Ø22	Ø22	Ø28	Ø22	Ø22	Ø22	3kW 240V/AC	20A
BL-DW-400L	Ø22	Ø28	Ø22 or Ø28	Ø22	Ø22 or Ø28	Ø22	Ø22	Ø28	Ø22	Ø22	Ø22	3kW 240V/AC	20A

PART	DESCRIPTION		TECHNICAL SPECIFICATIONS	
Casing	Pre-coated Galvanized steel / stainless steel		QCD-FIN-F14/V-5	
Cylinder	Copper		CU-DHP (CW024A) / EN1652	
Cylinder Cup	Copper		CU-DHP (CW024A) / EN1652	
Insulation	Polyurethane (λ=0,023W/mK , ρ=40kg/m^3, reaction to fire: class B3)		DIN 52612	
Heating Element			BS699 / BS1566 / BS3198 /BS6141	
Element Protection Cup	Galvanized sheet metal		QCD-FIN-F14/V-5	
WELDMENTS	MIG		L-CUP7 DIN EN CP202	
Piping	MATERIAL	TECHNICAL SPECIFICATIONS	CONNECTION	TECHNICAL SPECIFICATIONS
1	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
2	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Check Valve & Expansion Tank	25Bar (-10÷ 90C) 97/23/EC
3	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
4	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
5	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
6	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
7	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Expansion Tank & Ventilation Valve	97/23/EC
8	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Vacuum Valve	97/23/EC
9	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
10	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
11	Copper	CU-DHP (CW024A) / EN1652 /EN1057		

500L Boilers - Double Wall (High Pressure)

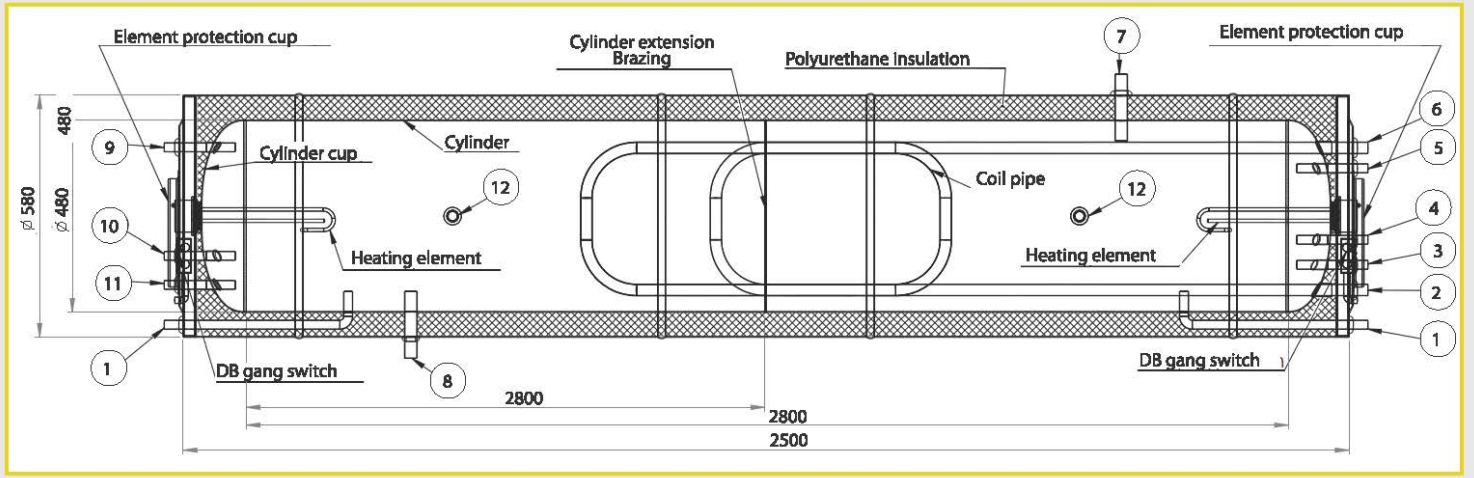


Cylinder Thickness (mm)	Cylinder Cup Thickness (mm)	1 (mm)	2 (mm)	3 (mm)	4 (mm)	5 (mm)	6 (mm)	7 (mm)	8 (mm)	9 (mm)	10 (mm)	11 (mm)	12 (mm)	13 (mm)	14 (mm)	15 (mm)	Heating Element	Fuse/ MCB
$2,0^{+0.1}_{-0.1}$	$2,0^{+0.1}_{-0.1}$	Ø 28	Ø 22	Ø 22	Ø 22	Ø 28	Ø 32 or Ø 35	Ø 22	Ø 22	Ø 22	Ø 22	Ø 22	Ø 22	Ø 32 or Ø 35	Ø 22	Ø 22	2 x 3kW 240V/AC	20A

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
IN to Coil	Pocket	IN return	Thermostat pocket	OUT from Coil	OUT hot water	IN to Jacket filling	Ventilation Jacket	Pocket	Pocket	Pocket	IN to Jacket from panel hot	IN cold water	IN to Jacket from panel cold	IN to Jacket from panel cold

PART	DESCRIPTION		TECHNICAL SPECIFICATIONS	
Casing	Pre-coated Galvanized steel / stainless steel		QCD-FIN-F14/V-5	
Cylinder	Copper		CU-DHP (CW024A) / EN1652	
Cylinder Cup	Copper		CU-DHP (CW024A) / EN1652	
Insulation	Polyurethane (λ=0,023W/mK , ρ=40kg/m^3, reaction to fire: class B3)		DIN 52612	
Heating Element			BS699 / BS1566 / BS3198 /BS6141	
Element Protection Cup	Galvanized sheet metal		QCD-FIN-F14/V-5	
WELDMENTS	MIG		L-CUP7 DIN EN CP202	
Piping	MATERIAL	TECHNICAL SPECIFICATIONS	CONNECTION	TECHNICAL SPECIFICATIONS
1	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
2	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Safety Valve 5 Bar	E-30-20061-07 97/23/EC
3	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
4	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
5				
6	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Vacuum Valve	97/23/EC
7	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Expansion Tank (Jacket)	97/23/EC
8	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Ventilation Valve	
9	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
10				
11	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
12	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Expansion Tank	97/23/EC
13	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Check Valve	25Bar (-10÷ 90C)
14	Copper	CU-DHP (CW024A) / EN1652 /EN1057		

500L Boilers - Single Wall (High Pressure)

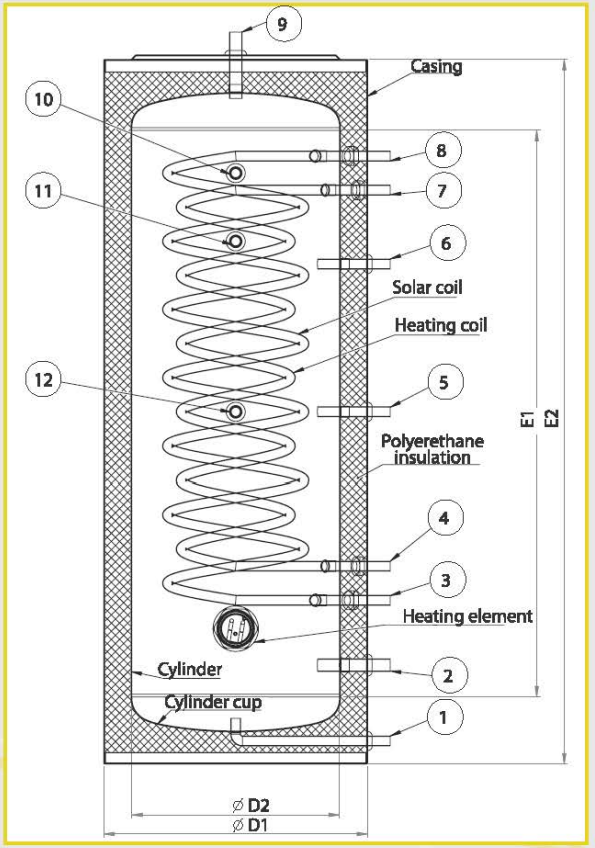


BL-SW-500L																
Dimension	Cylinder Thickness (mm)	Cylinder Cup Thickness (mm)	1 (mm)	2 (mm)	3 (mm)	4 (mm)	5 (mm)	6 (mm)	7 (mm)	8 (mm)	9 (mm)	10 (mm)	11 (mm)	12 (mm)	Heating Element	Fuse/ MCB
	$2,0^{+0.1}_{-0.1}$	$2,0^{+0.1}_{-0.1}$	Ø 22	Ø 28	Ø 22	Ø 22	Ø 22	Ø 28	Ø 32 or Ø 35	Ø 32 or Ø 35	Ø 22	Ø 22	Ø 22	Ø 22	2 x 3kW 240V/AC	20A

Piping Description											
1	2	3	4	5	6	7	8	9	10	11	12
OUT to collector panel COLD	IN to Coil	Pocket	IN return	Thermostat pocket	OUT from Coil	OUT hot water	IN Cold water	Thermostat pocket	Pocket	Pocket	IN from collector panel HOT

PART	DESCRIPTION		TECHNICAL SPECIFICATIONS	
Casing	Pre-coated Galvanized steel / stainless steel		QCD-FIN-F14/V-5	
Cylinder	Copper		CU-DHP (CW024A) / EN1652	
Cylinder Cup	Copper		CU-DHP (CW024A) / EN1652	
Insulation	Polyurethane (λ=0,023W/mK , ρ=40kg/m^3, reaction to fire: class B3)		DIN 52612	
Heating Element			BS699 / BS1566 / BS3198 /BS6141	
Element Protection Cup	Galvanized sheet metal		QCD-FIN-F14/V-5	
WELDMENTS	MIG		L-CUP7 DIN EN CP202	
Piping	MATERIAL	TECHNICAL SPECIFICATIONS	CONNECTION	TECHNICAL SPECIFICATIONS
1	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Safety Valve 5 Bar	E-30-20061-07 97/23/EC
2	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
3	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
4	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
6	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
7	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Vacuum Valve	97/23/EC
8	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Check Valve	25Bar (-10÷ 90C)
9	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
10	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
11	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Expansion Tank	97/23/EC
12	Copper	CU-DHP (CW024A) / EN1652 /EN1057		

150L - 250L Engine Room Boilers



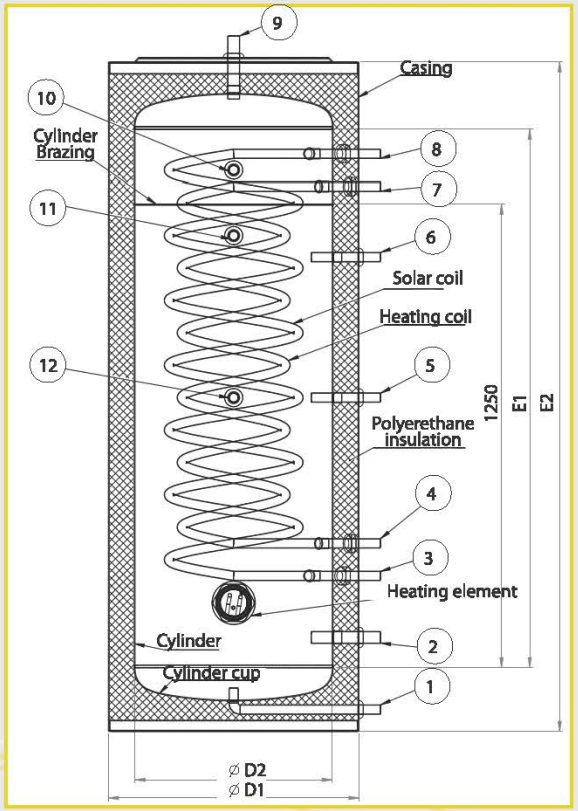
Dimension / Type	E1 (mm)	E2 (mm)	D1 (mm)	D2 (mm)	Cylinder Thickness (mm)	Cylinder Cup Thickness (mm)
BL-ER-150L	700	1000	480	580	$1,5^{+0,1}_{-0,1}$	$1,9^{+0,1}$
BL-ER-200L	950	1250	480	580	$1,5^{+0,1}_{-0,1}$	$1,9^{+0,1}$
BL-ER-250L	1250	1550	480	580	$1,7^{+0,1}_{-0,1}$	$1,9^{+0,1}$

Fitting	Description
1	OUT Draining
2	IN Cold water
3	OUT from Solar Coil
4	OUT from Heating Coil
5	IN Return
6	Thermostat pocket
7	IN to Solar Coil
8	IN to Heating Coil
9	OUT Hot water
10	Pocket
11	Pocket
12	Pocket

Pipe / Type	1 (mm)	2 (mm)	3 (mm)	4 (mm)	5 (mm)	6 (mm)	7 (mm)	8 (mm)	9 (mm)	10 (mm)	11 (mm)	12 (mm)	Heating Element	Fuse/ MCB
BL-ER-150L	Ø22	Ø22	Ø22 or Ø15	Ø22 or Ø15	Ø22 or Ø15	Ø22	Ø22 or Ø15	Ø22 or Ø15	Ø22	Ø22	Ø22	Ø22	3kW 240V/AC	20A
BL-ER-200L	Ø22	Ø22	Ø22 or Ø15	Ø22 or Ø15	Ø22 or Ø15	Ø22	Ø22 or Ø15	Ø22 or Ø15	Ø22	Ø22	Ø22	Ø22	3kW 240V/AC	20A
BL-ER-250L	Ø22	Ø28	Ø22	Ø22	Ø22	Ø22	Ø22	Ø22	Ø28	Ø22	Ø22	Ø22	3kW 240V/AC	20A

PART	DESCRIPTION		TECHNICAL SPECIFICATIONS	
Casing	Pre-coated Galvanized steel / stainless steel		QCD-FIN-F14/V-5	
Cylinder	Copper		CU-DHP (CW024A) / EN1652	
Cylinder Cup	Copper		CU-DHP (CW024A) / EN1652	
Insulation	Polyurethane (λ=0,023W/mK , ρ=40kg/m^3, reaction to fire: class B3)		DIN 52612	
Heating Element			BS699 / BS1566 / BS3198 /BS6141	
Element Protection Cup	Galvanized sheet metal		QCD-FIN-F14/V-5	
WELDMENTS	MIG		L-CUP7 DIN EN CP202	
Piping	MATERIAL	TECHNICAL SPECIFICATIONS	CONNECTION	TECHNICAL SPECIFICATIONS
1	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
2	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Check Valve & Expansion Tank	25Bar (-10÷ 90C) 97/23/EC
3	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
4	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
5	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
6	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
7	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
8	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
9	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Vacuum Valve	97/23/EC
10	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
11	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Safety Valve 5 Bar	E-30-20061-07 97/23/EC
12	Copper	CU-DHP (CW024A) / EN1652 /EN1057		

300L - 400L Engine Room Boilers



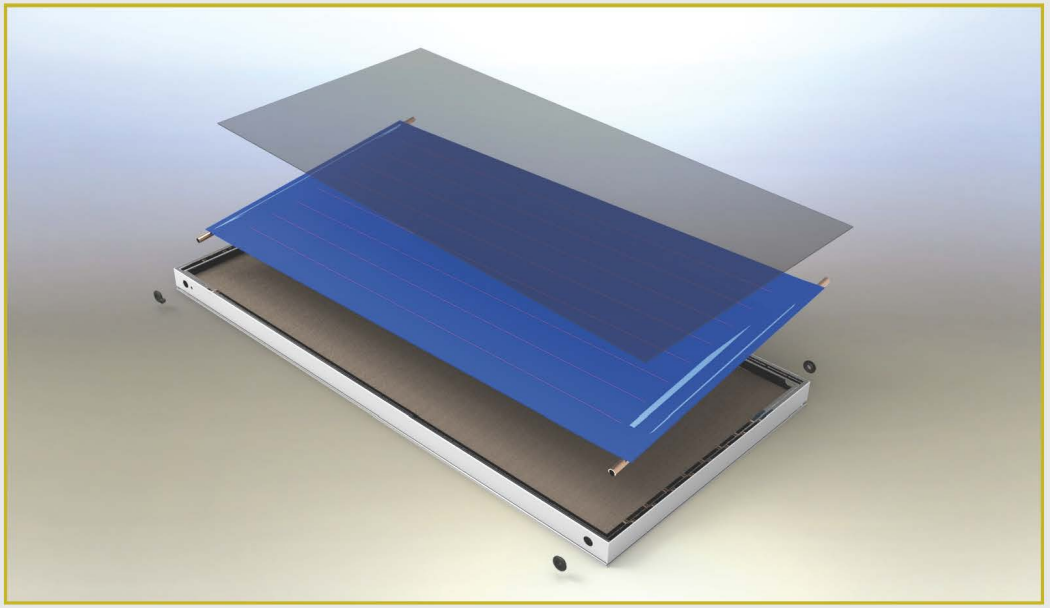
Dimension / Type	E1 (mm)	E2 (mm)	D1 (mm)	D2 (mm)	Cylinder Thickness (mm)	Cylinder Cup Thickness (mm)
BL-ER-300L	1500	1800	480	580	$2,0^{+0,1}_{-0,1}$	$2,0^{+0,1}_{-0,1}$
BL-ER-350L	1750	2050	480	580	$2,0^{+0,1}_{-0,1}$	$2,0^{+0,1}_{-0,1}$
BL-ER-400L	2000	2300	480	580	$2,0^{+0,1}_{-0,1}$	$2,0^{+0,1}_{-0,1}$

Fitting	Description
1	OUT Draining
2	IN Cold water
3	OUT from Solar Coil
4	OUT from Heating Coil
5	IN Return
6	Thermostat pocket
7	IN to Solar Coil
8	IN to Heating Coil
9	OUT Hot water
10	Pocket
11	Pocket
12	Pocket

Pipe / Type	1 (mm)	2 (mm)	3 (mm)	4 (mm)	5 (mm)	6 (mm)	7 (mm)	8 (mm)	9 (mm)	10 (mm)	11 (mm)	12 (mm)	Heating Element	Fuse/ MCB
BL-ER-300L	Ø22	Ø22	Ø22 or Ø15	Ø22 or Ø15	Ø22 or Ø15	Ø22	Ø22 or Ø15	Ø22 or Ø15	Ø22	Ø22	Ø22	Ø22	3kW 240V/AC	20A
BL-ER-350L	Ø22	Ø22	Ø22 or Ø15	Ø22 or Ø15	Ø22 or Ø15	Ø22	Ø22 or Ø15	Ø22 or Ø15	Ø22	Ø22	Ø22	Ø22	3kW 240V/AC	20A
BL-ER-400L	Ø22	Ø28	Ø22	Ø22	Ø22	Ø22	Ø22	Ø22	Ø28	Ø22	Ø22	Ø22	3kW 240V/AC	20A

PART	DESCRIPTION		TECHNICAL SPECIFICATIONS	
Casing	Pre-coated Galvanized steel / stainless steel		QCD-FIN-F14/V-5	
Cylinder	Copper		CU-DHP (CW024A) / EN1652	
Cylinder Cup	Copper		CU-DHP (CW024A) / EN1652	
Insulation	Polyurethane (λ=0,023W/mK , ρ=40kg/m^3, reaction to fire: class B3)		DIN 52612	
Heating Element			BS699 / BS1566 / BS3198 /BS6141	
Element Protection Cup	Galvanized sheet metal		QCD-FIN-F14/V-5	
WELDMENTS	MIG		L-CUP7 DIN EN CP202	
Piping	MATERIAL	TECHNICAL SPECIFICATIONS	CONNECTION	TECHNICAL SPECIFICATIONS
1	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
2	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Check Valve & Expansion Tank	25Bar (-10÷ 90C) 97/23/EC
3	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
4	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
5	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
6	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
7	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
8	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
9	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Vacuum Valve	97/23/EC
10	Copper	CU-DHP (CW024A) / EN1652 /EN1057		
11	Copper	CU-DHP (CW024A) / EN1652 /EN1057	Safety Valve 5 Bar	E-30-20061-07 97/23/EC
12	Copper	CU-DHP (CW024A) / EN1652 /EN1057		

Systems for Saving Energy



THYLEN Collectors

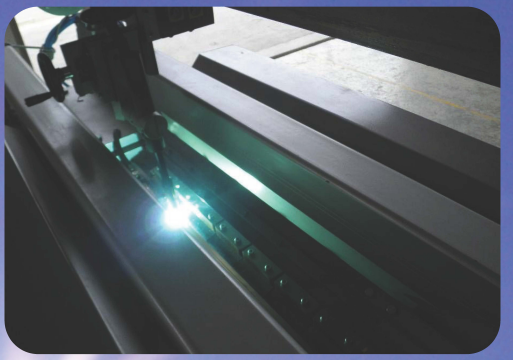
. Aluminum frame rich in magnesium providing excellence in manufacturing quality and aesthetics

. Backplane thermal insulation via rockwool with thermal conductivity λ = 0,042 W / mK Class A1 (EN-13501-1)

. Lateral thermal insulation via glass wool with thermal conductivity λ = 0,035 W / mK Class A1 (EN-13501-1)

. Special safety glass (tempered glass), low in iron (Fe) with specific permeability Tr = 0.916 ÷ 0.920 (EN1096-2)

. High selective Blue FULL PLATE absorber (95% Absorption, 5% Emission)



Hot water boilers made only by copper

We strike to make this world a Greener place to live in

ΘΗΛΕΝ

ΗΛΙΑΚΑ ΣΥΣΤΗΜΑΤΑ

24 Ayiou Panteleimona Str.
5292 Paralimni, Cyprus
Tel. +357 23 742 100
Fax. +357 23 742 102
e-mail. info@thylensolar.com
www.thylensolar.com

ICIM

CE

TÜV CERT ISO 9001:2008

OEB