



Codes

T40-ASU

T50-ASU

T80-ASU

Fegen Solar Modules SM series are All-in-One, Plug & Play, Outdoor, Scalable enclosures that incorporate all solar thermal and solar electric distribution gear for buildings in one device.

- No need of a conventional indoor boiler room
- No on-site labor cost
- Immediate start-up

- No responsibility conflicts
- Easy control and maintenance
- Scalable for infinite combinations

- **Tight single door dimensions**
- **40-80 gallons water storage**
- **Integrated heating element**
- **Robust AC pump design with controller**
- **Solar back up system for redundancy**
- **Defrost system for reliability**
- **Solar pool gear option (P extension coded)**

CABIN GENERAL CHARACTERISTICS

Thermal Part

Type	RITTAL TS 8
External dimensions W x H x D (front view)	800 x 2000 x 800 mm / 31,50 x 78,74 x 31,50 inch
Mounting plate W x H	699 x 1896 mm / 27,5 x 74,65 inches
Weight/pack	124 kg
Material	Sheet steel
Cold / Hot Supply - Brass	1 ¼ inch
Color	RAL 7035
Protection category IP to IEC 60 529	IP 55
Doors	1
Light	Auto door power On/Off - 600 lumens
Scalability	Unlimited
Protection	Over-temperature, Anti-freeze control
Approvals	Bureau Veritas, CSA, TÜV, DNV-GL, Lloyds Register of Shipping, Russian Maritime Register of Shipping, UL + C-UL
Certificates	EAC,IK-Code, Protection category
Declarations	Declaration of conformity, Manufacturer's declaration

CABIN LIGHTING SYSTEM-TECHNICAL SPECIFICATIONS

General Data

Type	RITTAL LED system light
Material	Light body: Extruded aluminium Light cover: Polycarbonate (halogen-free) Light ends: PC-ABS (halogen-free)
Color	Enclosure: RAL 7016
Protection category IP to IEC 60 529	IP 20
Dimensions	Width: 337 mm, Height: 55 mm, Depth: 23 mm
Rated operating voltage	100 V - 240 V, 1~, 50 Hz/60 Hz
Operating temperature	Operation (environment): -20°C...+55°C
Power consumption	7 W
Luminous flux	600 lm
Light colour	4000 K (neutral white)
Protection category	II (all-insulated)
Weight/pack	0.35 kg
Approvals	CCC, ENEC
Certificates	EAC

SOLAR TANK CHARACTERISTICS

T40

T50

T60

General Data			
Type	Sammler SV		
Solar tank capacity	160 lt / 40 gal	200 lt / 50 gal	300 lt / 80 gal
External dimensions W x H	580 x 1058 mm 22,83 x 41,6 inch	580 x 1292 mm 22,83 x 50,9 inch	580 x 1735 mm 22,83 x 68,3 inch
Weight	67 kg / 235 lb	82 kg / 235 lb	107 kg / 235 lb
Number of boilers	1		
Max pressure primary circuit	3 bar		
Max pressure secondary circuit	3 bar		
Electric Resistance	1.50 – 4.00 KW (UL Ready) - not included		
Anti-corrosion protection	2 x magnesium anodes		
Certification	SRCC, Solar Keymark, CE		

SOLAR PUMP STATION

General Data		General Data	
Type	Caleffi 279 series		
Dimensions	Height (with controller extension): 381 mm Width (with insulation) : 203,2 mm		
Suitable fluids	water, glycol solution		
Max. percentage of glycol	50%		
Maximum working temperature	air separator side supply: 320°F (160°C), pump side return: 230°F (110°C)		
Max. working pressure	145 psi (10 bar)		
Safety relief valve working temperature range	-20 to 320°F (-30–160°C)		
Safety relief valve setting	90 psi (6 bar)		
Check valve min. opening pressure (Dp)	1/4 psi (2 kPa)		
Shut-off and check valves working temperature range	-20 to 320°F (-30–160°C)		
Flow meter working temperature range	15 to 230°F (-10–110°C)		
Flow rate adjustment range	2 to 8 gpm		
Flow rate indicator accuracy	±10%		
Pressure gauge scale	0 to 145 psi (0–10 bar)		
Temperature gauge scale	32 to 320°F (0–160°C)		
Connections	3/4" female straight thread		
Hose connection	3/4"		
Fill/drain connections	with hose connection 9/16" OD (15 mm)		

Materials

Shut-off valve body	Brass
Check valve	Brass
Temperature gauge	steel/aluminum
Air Separator body	Brass
Instrument holder fitting body	Brass
Instrument holder fitting sealing gaskets	EPDM
Instrument holder fitting O-Ring seal elements	EPDM
Flow meter body	Brass
Flow meter transparent level gauge	PS
Flow meter flow indicator	Brass
Insulation material	PP
Insulation average thickness	20 mm
Insulation density	45 kg/m3
Insulation working temperature	-5...120°C
Insulation thermal conductivity	0.263 BTU·in/hr·ft²·°F 0.037 W/(m·K) at 50°F (10°C)
Insulation reaction to fire (UL94)	class HBF

CONTROLLER

General Data	
Type	Caleffi iSolar
Dimensions	Width: 171.45 mm, Height: 111.1 mm, Depth: 50.8 mm
Weight	0.4 kg
Housing	PC-ABS
Protection type	Indoor
Display	LCD
Interface	Three soft push buttons
Inputs	4 temperature sensors
Outputs	1 or 2 triac or standard relays
Switching Capacities	1 A - 115 VAC
Power Supply	12V - 24V
Power Consumption	1W, 1.5VA
Data Connection	V-Bus
Performance	
ΔT adjustment range	2-40° ΔT (1-20 °K)
Min. temperature differential	2° ΔT (1 °K)
Hysteresis	2° $\Delta T \pm 1^\circ \Delta T$ (1 °K $\pm 5^\circ \Delta T$)
Max. tank temperature range	210 - 375 °F (100 - 190 °C)
Emergency shut down of the collector	230 - 395 °F (110 - 200 °C)
Min. collector temperature option	50 - 195 °F (10 - 90 °C)
Antifreeze temperature option	15 - 50 °F (-10 - 10 °C)
kWh (BTU) flow input	0 - 5 gpm (0 - 20 lpm)
Agency approvals	cTUVus
Temperature Sensors	
Platinum RTD type	1,000 ohm
Collector sensor working range	-58 - 355 °F (-50 - 180 °C)
Tank sensor working range	15 - 175 °F (-10 - 80 °C)
Length of collector black cable	60 in (1.5 m)
Length of tank sensor gray cable	95 in (2.5 m)
Glycol (recommended type)	
Type	DOWFROST HD
Recommended temperature range	-46°C...163°C
Freezing Point	-33.5 °C
Boiling Point @ 1 bar	105.6 °C
Freeze protection temperature	-51 °C
Burst protection temperature	-73 °C
Weight % Propylene Glycol	94
Weight % performance additives	6
Specific gravity (15 °C)	1.053 - 1.062
pH of Solution	9.5 - 10.5
Reserve alkalinity	15.0 ml