

TACOSOL CIRC ER

SINGLE LINE SOLAR STATION



Pump group with balancing valve and optional safety subassembly for solar heating energy systems.

DESCRIPTION

Hydraulic balancing and flow measurement can be carried out directly on the station in the case of the TacoSol Circ ER solar station. The integrated TacoSetter Inline 130 allows the volume flow in the primary circuit to be precisely and conveniently adjusted and checked. Systems that are correctly balanced hydraulically ensure optimal energy transfer from the collector panel to the heat storage unit and therefore allow economical operation of the solar system.

Using scales that are pre-calibrated for inhibitors, specialists locally can adjust and check the flow values. Training and costly measuring devices are no longer needed.

INSTALLATION POSITION

The solar station must be installed vertically. The installation can be carried out by a single installer.

ADVANTAGES

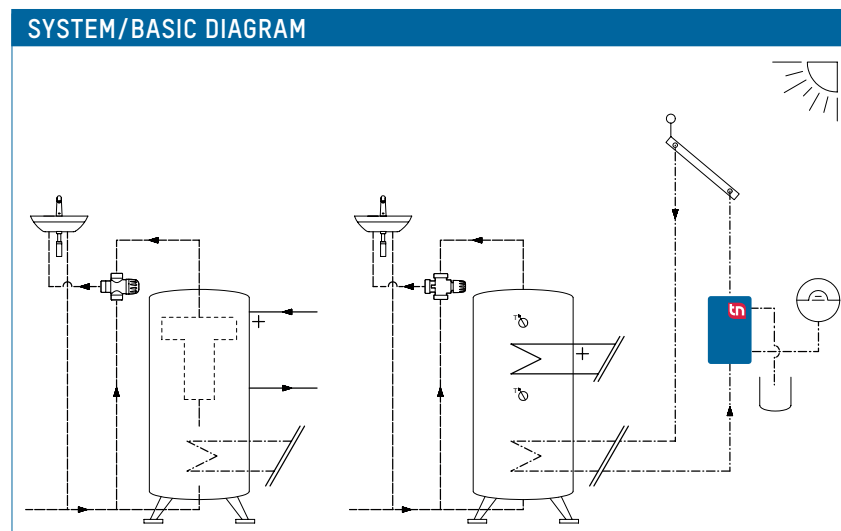
- Inexpensive assembly thanks to compact, pre-assembled design
- Fast filling, draining and servicing of the system owing to multi-functional ball valve
- Simple hydraulic balancing and functional checking of the system with TacoSetter Inline 130 and direct reading of the volume flow in l/min (the reading scale is already calibrated for glycol mixtures).
- Pump can be changed with ease as it lockable on the intake and output sides
- Intrinsic safety of the station is assured by an optional safety subassembly
- Highly efficient system operation owing to the use of HE pumps

OPERATION

In combination with a solar controller, the solar station transports the solar liquid heated in the collector to the hot water/drinking water storage tank via a heat exchanger. The integrated TacoSetter Inline 130 balancing valve enables the volume flow to be adjusted to the performance of the collector or heat exchanger and checked. The flow measurement of this balancing valve is based on the principle of a float. The regulating screw on the flow meter is used to adjust the flow. The reading position is the lower edge of the float element.

BUILDING CATEGORIES

- Apartments, apartment blocks
- Single family homes, housing estates
- Multiple dwelling units



TACOSOL CIRC ER | SINGLE LINE DESIGN WITH SAFETY SUBASSEMBLY

SPECIFICATION TEXT

See www.taconova.com

TECHNICAL DATA

General

- Max. operating temp. $T_{0\text{ max}}$: 110 °C
- Max. operating pressure $P_{0\text{ max}}$: 8 bar
- Actuating pressure of the integrated safety valve: 6 bar
- k_{VS} value and measurement range according to „Type overview“ table
- Thread according to DIN 2999/ISO 7 and ISO 228
- Measuring accuracy $\pm 10\%$ of the final value
- Pump power depends on the selected pump type: See information from pump manufacturer

Material

- Valve housing: Brass
- Internal parts: Stainless steel, brass, plastic; borosilicate (sight glass)
- O-ring seals: EPDM
- Flat seals: AFM34
- Insulation: EPP

Electric connection data

Depends on the selected pump type: See information from pump manufacturer

Fluids

- Water mixtures with typical additives used against corrosion and freezing (display scale for medium viscosity $\nu = 2,3\text{ mm}^2/\text{s}$)
- Heating water (VDI 2035; SIA Directive 384/1; ÖNORM H 5195-1)
- Cold water

TYPE OVERVIEW

TacoSol Circ ER | Single line design with safety subassembly

Order no.	$k_{VS}^{1)}$	Measuring range ²⁾	Circulating pump
270.1006.345	1,5	1,5 – 6,0 l/min	WILO ST 20/6-3
270.1016.345	3,3	4,0 – 16,0 l/min	WILO ST 20/6-3
270.1028.345	3,5	8,0 – 28,0 l/min	WILO ST 20/6-3

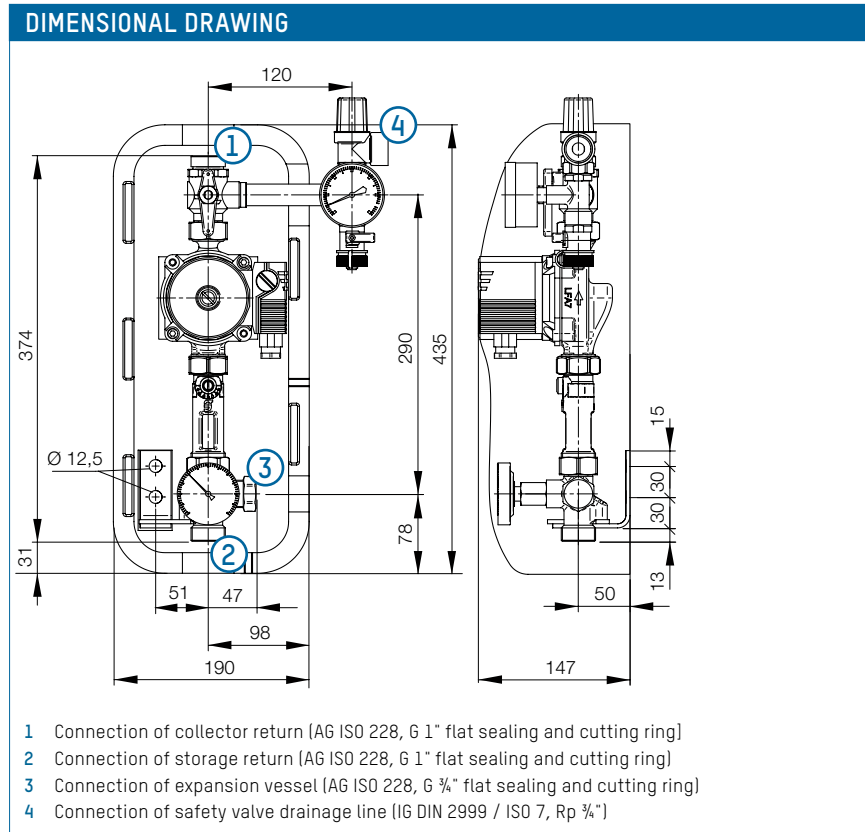
TacoSol Circ ER | Single line design with safety subassembly

Version with high-efficiency circulating pump

Order no.	$k_{VS}^{1)}$	Measuring range ²⁾	High-efficiency circulating pump
270.8006.345	1.5	1,5 – 6,0 l/min	Grundfos PM2 15-105/130
270.8016.345	3.3	4,0 – 16,0 l/min	Grundfos PM2 15-105/130
270.8028.345	3.5	8,0 – 28,0 l/min	Grundfos PM2 15-105/130

¹⁾ k_{VS} [m³/h] at $\nu = 1\text{ mm}^2/\text{s}$

²⁾ Reading scale for water-glycol mix with $\nu = 2,3\text{ mm}^2/\text{s}$



TACOSOL CIRC ER | SINGLE LINE DESIGN

SPECIFICATION TEXT

See www.taconova.com

TECHNICAL DATA

General

- Max. operating temp. $T_{0\text{max}}$: 110 °C
- Max. operating pressure $P_{0\text{max}}$: 8 bar
- k_{VS} value and measurement range according to „Type overview“ table
- Thread according to ISO 228
- Measuring accuracy $\pm 10\%$ of the final value

Material

- Valve housing: Brass
- Internal parts: stainless steel, brass, plastic; boric silicate (sight glass)
- O-ring seals: EPDM
- Flat seals: AFM34
- Insulation: EPP

Electric connection data

Depends on the selected pump type:
See information from manufacturer

Fluids

- Water mixtures with typical additives used against corrosion and freezing (display scale for medium viscosity $\nu = 2,3 \text{ mm}^2/\text{s}$)
- Heating water (VDI 2035; SIA Directive 384/1; ÖNORM H 5195-1)
- Cold water

TYPE OVERVIEW

TacoSol Circ ER | Single line design

Order no.	k_{VS} ¹⁾	Measuring range ²⁾	Circulating pump
270.1006.000	1,5	1,5 – 6,0 l/min	WILO ST 20/6-3
270.1016.000	3,3	4,0 – 16,0 l/min	WILO ST 20/6-3
270.1028.000	3,5	8,0 – 28,0 l/min	WILO ST 20/6-3

TacoSol Circ ER | Single line design

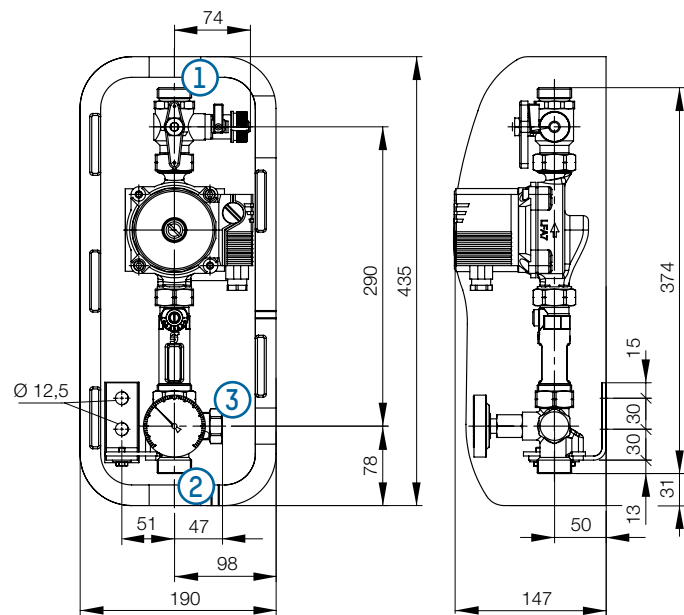
Version with high-efficiency circulating pump

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270.8028.000	3,5	8,0 – 28,0 l/min	Grundfos PM2 15-105/130

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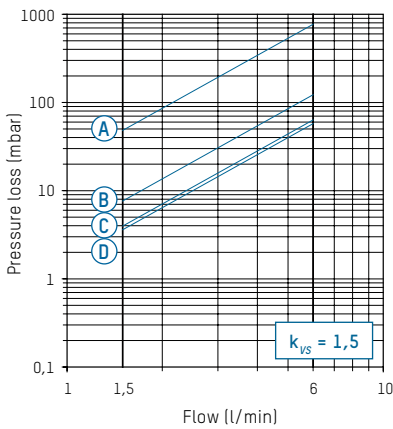
DIMENSIONAL DRAWING



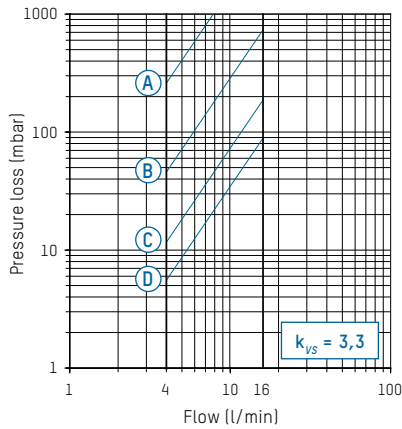
- 1 Connection of collector return (AG ISO 228, G 1" flat sealing and cutting ring)
- 2 Connection of storage return (AG ISO 228, G 1" flat sealing and cutting ring)
- 3 Connection of expansion vessel (AG ISO 228, G ¾" flat sealing and cutting ring)

PRESSURE LOSS DIAGRAMS

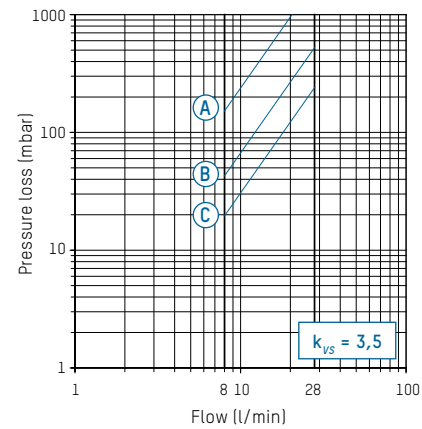
270.X006.XXX (DN 20 | 1" | 1,5...6 l/min)



270.X016.XXX (DN 20 | 1" | 4...16 l/min)



270.X028.XXX (DN 20 | 1" | 8...28 l/min)



A - D Return characteristics of valve position for TacoSetter Inline 130

ACCESSORIES



SOLDER JOINT PRESSURE FITTING

Flat sealing connector joint, consisting of a soldered connecting nipple, lock nut and flat seal suitable for solar technology

Order no.	G x mm	Version for
210.5331.019	1" x 18 mm	Copper pipe 18 mm
210.5332.019	1" x 22 mm	Copper pipe 22 mm



FILL AND DRAIN COCK 3WAY CONNECTOR

For connection to the expansion vessel connector piece, consisting of a T- joint with fill and drain cock, lock nut with G 3/4" internal thread with flat seal suitable for solar technology, G 3/4" outer thread connector.

Order no.	DN	G
296.7001.354	20	3/4"



EXPANSION VESSEL MOUNTING BRACKET WITH QUICK ACTION COUPLING

For mounting the expansion vessel on the wall with quick-action shut-off coupling 1 x internal thread, 1 x external thread G 3/4".

Order no.	DN	G
296.7002.000	20	3/4"



STAINLESS STEEL TUBE

For connecting the expansion vessel, incl. 3/4" lock nut and flat seals suitable for solar technology.

Order no.	DN	G	Length
296.7003.000	20	3/4"	0,5 m



SOLAR CONTROLLER RESOL DELTASOL® (SEE SEPARATE DATA SHEET)

Order no.	Type	Info
296.7010.000	BS	Simple systems
296.7011.000	BS Plus	Complex solar systems



SOLAR CONTROLLER SOREL

Order no.	Type	Info
296.7012.000	TDC 1	Simple systems
296.7013.000	TDC 3	Complex solar systems and high efficiency pumps