taconova

where comfort begins

RANGE OF PRODUCTS 2013

HYDRONIC BALANCING | DISTRIBUTION TECHNOLOGY | SYSTEM TECHNOLOGY | VALVES AND ACCESSORIES

Comfort begins with simplicity and ease. At Taconova, we offer the combined comfort of premium quality and simplicity – from information, planning and ordering to installation, service and maintenance. Our elaborate and reliable solutions bring the comforts which really matter: perfect room and water temperatures – in the right place at the right time. Whether your demand is for private or business premises, industrial settings or public buildings, Taconova's resourceful products prove the right choice for heating or cooling, sanitary or indoor climate technology applications. Live a comfortable life. Begin with Taconova.

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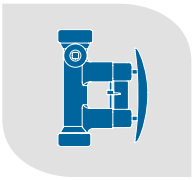
CONTENTS

ABBREVIATIONS

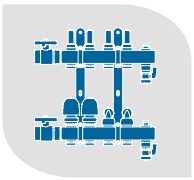
DN	=	Nominal diameter
G	=	Fastening thread, cylindrical, as per ISO 228
R	=	Pipe thread/outer thread as per ISO 7/DIN 2999
Rp	=	Pipe thread/inner thread as per ISO 7/DIN 2999
IG	=	Inner thread
AG	=	Outer thread
M	=	Metric thread
$P_{0\,max}$	=	Maximum operating pressure as per DIN 2401
$T_{0\,max}$	=	Maximum operating temperature as per DIN 2401
k_{VS}	=	Characteristic value in reference to a volume flow of 1 m³/h and a pressure loss of 1 bar at 100 % valve lift

OVERVIEW OF THE AREAS OF EXPERTISE OF TACONOVA



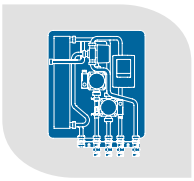
HYDRONIC BALANCING

Energy in buildings must be distributed in such a way that all building sections, rooms and consumers are supplied according to their needs. A well-balanced system avoids excess and deficient supply of consumer circuits and prevents irritating flow noises in the pipes and valves.
The gain in comfort due to pleasant room temperatures and significantly increased energy efficiency are the perceptible and measurable results of hydronically balanced flow systems. Hydronic balancing – the core area of expertise of Taconova – is part of the modern standard and is indispensable in the building service solutions of today.



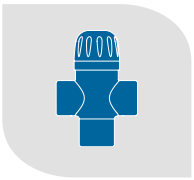
DISTRIBUTION TECHNOLOGY

Targeted heating of individual rooms increases the comfort level, reduces energy consumption and enables economic operation of the heating system. Optimum energy distribution is required in this regard: for main distribution in basements or pump rooms, the main flows are distributed to the various parts of the building as part of the hydronic balancing. To achieve the desired temperatures in the various rooms and heating circuits, focused distribution using intelligent and reliable distribution systems is also required on each floor. Taconova's comprehensive range of distribution systems is marked by optimally balanced products that can be combined in many different permutations.



SYSTEM TECHNOLOGY

The demand for universal solutions in building services is greater than ever. Connection-ready solar energy and fresh water stations from Taconova are highly evolved systems employing state-of-the-art technology. High-quality Taconova products are combined with carefully selected and proven products to produce perfectly functioning series units. These ready-to-use universal solutions simplify and speed up planning and installation. In everyday use they guarantee reliable operation and reduce maintenance to a minimum.



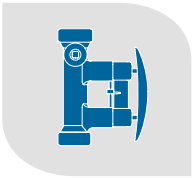
VALVES AND ACCESSORIES

A smoothly running heating or cooling system requires a large number of compact supporters. Valves and accessories from Taconova automatically vent heating systems since only continuously vented heating systems work with the greatest efficiency. Thermal mixer valves reduce the high domestic hot water temperatures to a constant, non-scalding temperature at the outlet. Multifunctional valves and accessories for monitoring the pressure in heating systems provide additional safety. Sophisticated sensors and measuring equipment – for example, for individual heat metering – complete the comprehensive range of Taconova fittings.

ALL TACONOVA PRODUCTS AND THEIR APPLICATION AREAS AT A GLANCE

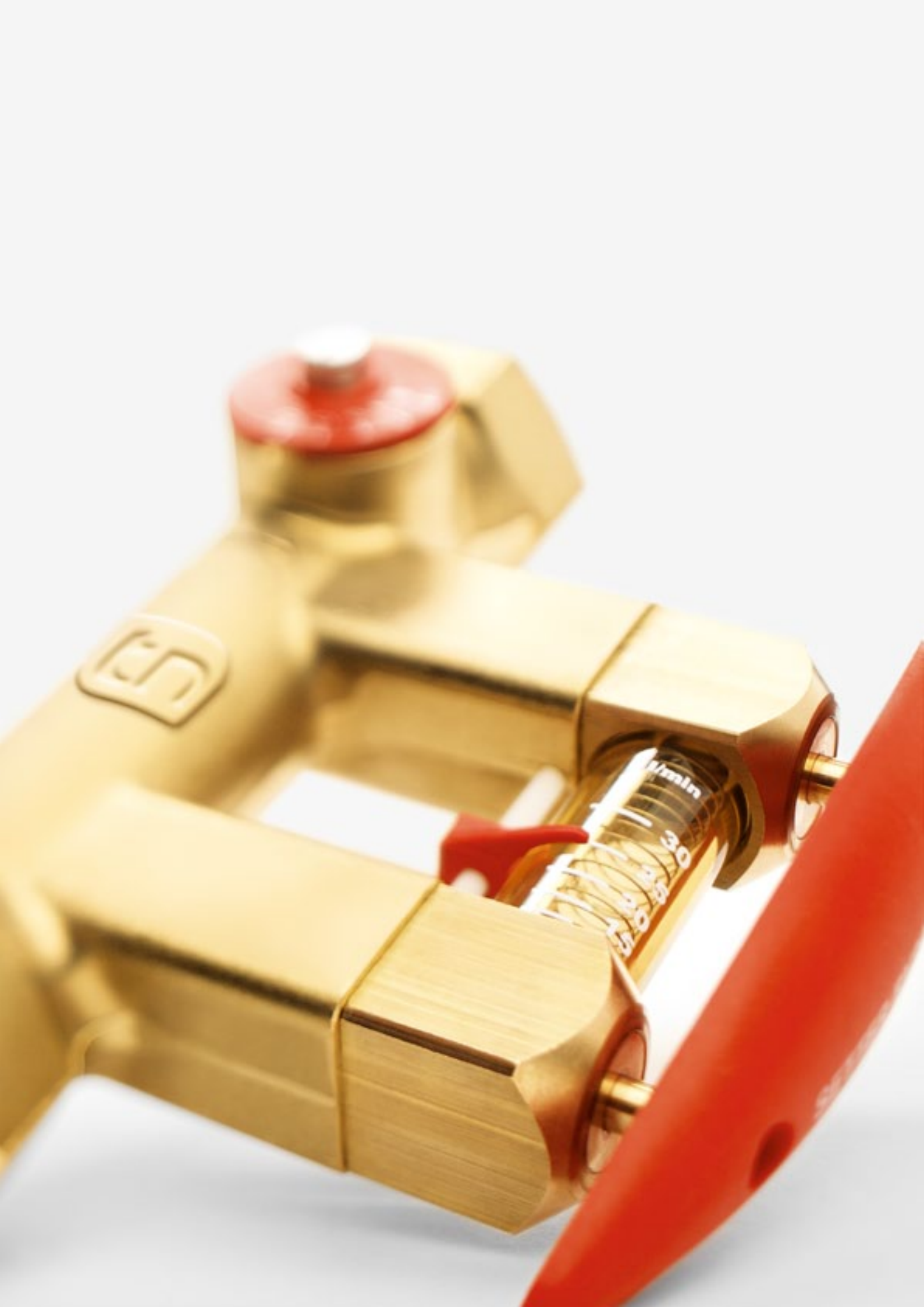
	PRODUCT NAME AS OF 2011	PRODUCT NAME UP TO 2011	Heating & cooling generation				Heating & cooling distribution					Sani-tation	Other	
			Geothermal energy	**Solar thermal energy**	Oil, gas, biomass, electricity	District heating	Radiators	**Underfloor heating**	Concrete core	Chilled and heated ceilings	Fan Coils, Chill Beams	**Fresh water**	Watering (garden, air/water)	Industrial applications
HYDRONIC BALANCING	tn TacoSetter Bypass 100	AV23 Setter Bypass SD	■		■	■	■	■		■	■	■	■	■
	tn TacoSetter Bypass Solar 130	AV23 Setter Bypass SD Solar		■										■
	tn TacoSetter Bypass Solar 185	AV23 Setter Bypass HT Solar		■										■
	tn TacoSetter Bypass Flange	AV23 Setter Bypass Flange			■	■				■			■	■
	tn TacoSetter Inline 100	AV23 Setter Inline	■		■		■	■	■	■	■	■	■	■
	tn TacoSetter Inline 130	AV23 Setter Inline UN	■	■										■
	tn TacoSetter Rondo	AV23 Setter Rondo					■	■	■	■	■		■	■
	tn TacoSetter Tronic	AV23 Setter Tronic UN	■	■		■						■	■	■
	tn AX	e.g. AX96, VF10 (accessories and replacement parts)												
DISTRIBUTION TECHNOLOGY	tn TacoSys HighEnd	VH86 Tacosys VH 86 High End						■	■					■
	tn TacoSys Value	VH86 Tacosys VH 86 Low End						■	■					■
	tn TacoSys Connect	VH86 Tacosys HKA					■		■					■
	tn TopMeter Supply	A023 Topmeter VL						■	■					■
	tn TopMeter Return	A023 Topmeter RL						■	■					■
	tn NovaDrive NC	RA57 Novadrive NC					■	■	■	■	■			
	tn NovaDrive NO	RA58 Novadrive NO					■	■	■	■	■			
	tn NovaDrive Switch	RA57 Micro-Switch						■	■	■	■			
	tn TopDrive NC	RA57 Topdrive					■	■	■	■	■			
	tn NovaStat EL Basic	RT06 RT-EL					■	■	■	■	■			
	tn NovaStat EL Quattro	RT06 RT-ELQ					■	■	■	■	■			
	tn NovaStat EL Inwall	RT06 RT-UW					■	■	■	■	■			
	tn NovaStat EL Digital	RT06 RT-D					■	■	■	■	■			
	tn NovaStat EL Week	RT06 RT-WP					■	■	■	■	■			
	tn NovaStat EL Public	RT06 RT-P					■	■	■	■	■			
	tn NovaMaster EL Basic	RX58 Master					■	■	■	■	■			
	tn NovaMaster EL Logic	RX58 Master PL					■	■	■	■	■			
	tn NovaMaster EL SlaveBox	RX58 SB					■	■	■	■	■			
	tn NovaMaster EL Timer	RX58 Timer					■	■	■	■	■			
	tn NovaStat RF Basic	RT06 RT-RF					■	■	■	■	■			
	tn NovaStat RF Digital	RT06 RT-RFD					■	■	■	■	■			
	tn NovaStat RF Week	RT06 RT-RFWP					■	■	■	■	■			
	tn NovaMaster RF Logic	RX58 Master/Timer-RF					■	■	■	■	■			
	tn NovaMaster RF SlaveBox	RX58 SB RF					■	■	■	■	■			
	tn NovaMaster RF Mini	RX58 RT-RFK					■	■	■	■	■			
	tn AX	e.g. RX58 Transformer, TF98, VH86 etc.												

	PRODUCT NAME AS OF 2011	PRODUCT NAME UP TO 2011	Heating & cooling generation				Heating & cooling distribution					Sani-tation	Other	
			Geothermal energy	**Solar thermal energy**	Oil, gas, biomass, electricity	District heating	Radiators	**Underfloor heating**	Concrete core	Chilled and heated ceilings	Fan Coils, Chill Beams	**Fresh water**	Watering (garden, air/water)	Industrial applications
SYSTEM TECHNOLOGY	tn TacoSol Circ ER	FV70 Tacosol ER		■										
	tn TacoSol Circ ZR	FV70 Tacosol ZR		■										
	tn TacoSol Circ ZR PV EU21	FV70 Tacosol Edition EU21		■										
	tn TacoSol Load 25	FV71 Megasphere & Megasphere light		■										
	tn TacoSol Load 240	Innovation		■										
	tn TacoTherm Fresh 15	Innovation										■		
	tn TacoTherm Fresh 40	FF71 Megafresh										■		
	tn TacoTherm Fresh 120	Innovation										■		■
	tn AX	e.g. FY98 Spare parts, FX96 DC-Control, FX96 PV-Panel etc.												
VALVES AND ACCESSORIES	tn NovaMix Value 65 FS	MT53		■	■							■		■
	tn NovaMix Value 70 FS	MT53		■	■			■				■		■
	tn NovaMix Standard 40	MT52		■	■			■				■		■
	tn NovaMix Standard 70	MT52		■	■			■				■		■
	tn NovaMix Standard 70 FR	MT52		■	■			■				■		■
	tn NovaMix Standard 70 FS	MT52		■	■			■				■		■
	tn NovaMix HighCapacity 70	MT52 HC		■	■			■				■		■
	tn NovaMix Compact 70	MT52 Compact		■	■			■				■		
	tn NovaZone Ball 2way	RK56 Motor-driven ball valve	■	■	■	■	■	■	■	■	■	■	■	■
	tn NovaZone Ball 3way	RK57 Motor-driven ball valve	■	■	■	■	■	■	■	■	■	■	■	■
	tn NovaZone Valve 2way	RM56 Zone valve	■	■	■	■	■	■	■	■	■	■	■	■
	tn NovaZone Valve 3way	RM56 Zone valve	■	■	■	■	■	■	■	■	■	■	■	■
	tn TriBloc 2.5	UK32 Tri-Bloc			■									■
	tn TriBloc 3.0	UK32 Tri-Bloc			■									■
	tn TacoVent HyVent	ER40 HyVent			■	■	■	■	■	■	■	■		■
	tn TacoVent Vent	ER40 Vent					■	■	■	■	■	■		
	tn TacoVent AirScoop horizontal	EL43 Airscoop	■	■	■	■								■
	tn TacoVent AirScoop vertical	Air separator (vertical)	■	■	■	■	■			■				■
	tn TacoControl Tronic	VFS direct sensor	■	■	■	■		■					■	■
	tn TacoControl FlowMeter	AV23 Flometer			■			■	■	■	■		■	■
	tn AX	e.g. MX96 RV (for MT52), MX78 precision thermometer												



HYDRONIC BALANCING

In hydraulic heating and cooling systems, the energy carrier is transported over piping sections of different lengths. On the path from the energy generator to the consumer, pipe lengths and turns, branches, valves and heat exchangers present their own resistance that inhibits flow through their cross-sections and surface roughness. Energy in buildings must be distributed in such a way that all building sections, rooms and consumers are optimally supplied according to their needs. A balanced system avoids excess and wasteful supply of consumer circuits and prevents irritating flow noises in the pipes and valves. The gain in comfort due to pleasant room temperatures and significantly increased energy efficiency are the perceptible and measurable results of hydronically balanced flow systems


l/min
30

ESSENTIAL FOR MODERN BUILDING SERVICES

Hydronic balancing – the core area of expertise of Taconova – is part of the modern standard and is indispensable in the building service solutions of today. Hydronic balancing is promoted in different countries with subsidies. It is often legally prescribed for new buildings and refurbishment.

QUALITY VALVES

Taconova offers all the valves that are needed for optimal implementation of a hydraulic balance system. Allowing complete line balancing of high-pressure circuits which provides quick and easy planning, and thus the economic operation of the plant.

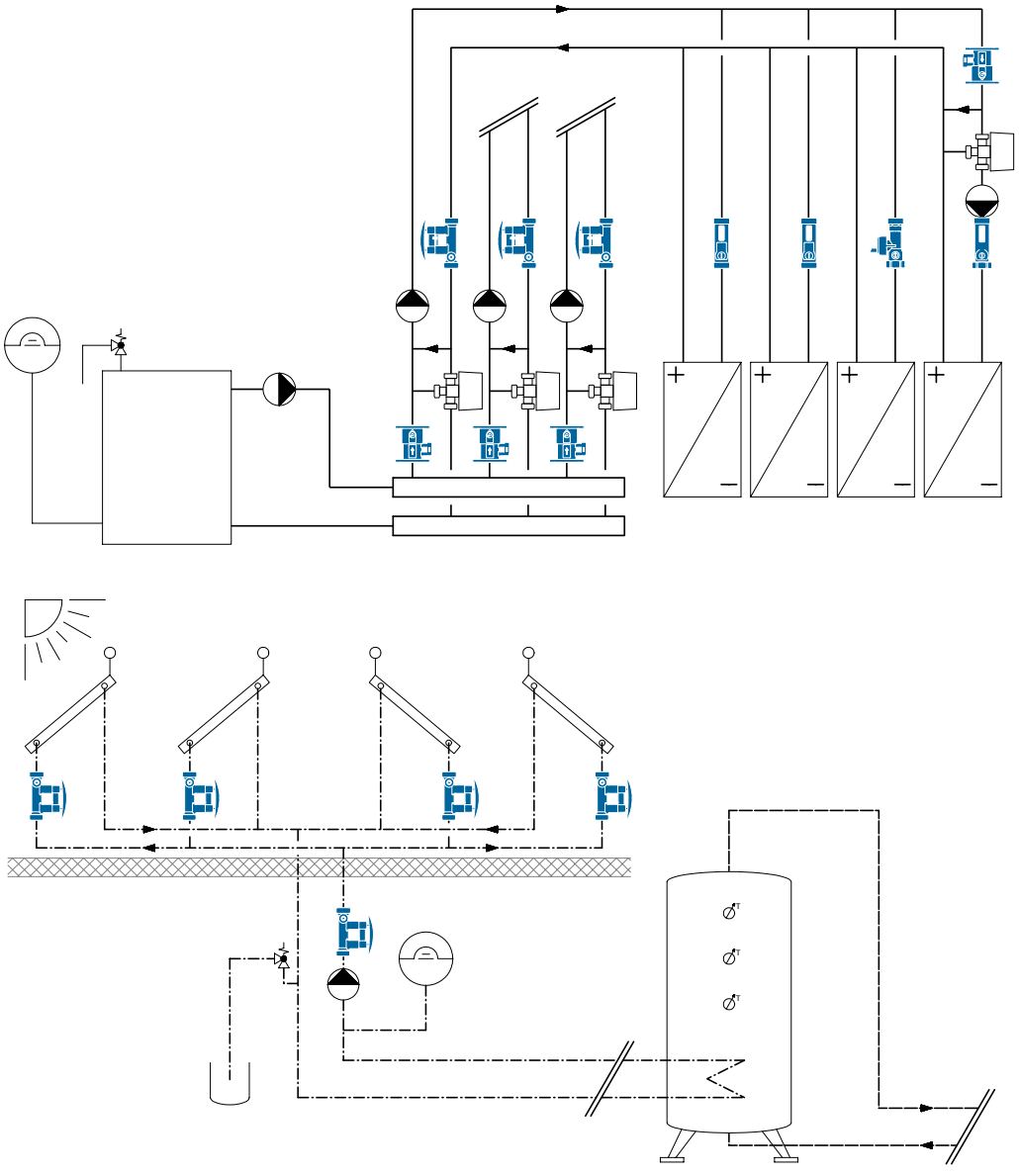
Balancing Valves	
The classic models in the TacoSetter and TopMeter family guarantee the desired flow rates in heating systems, as well as in cooling, solar energy and saline water distribution systems. The flow volume can be directly checked at a glance at any time with these balancing valves – with one exception: the TacoSetter Tronic, which measures the flow rate electronically.	■ TacoSetter Bypass 100 ■ TacoSetter Bypass Solar 130/185 ■ TacoSetter Bypass Flange ■ TacoSetter Inline 100/130 ■ TacoSetter Rondo ■ TacoSetter Tronic ■ TopMeter Supply/Return

APPLICATIONS

Taconova offers a seamless portfolio of high-quality balancing and measurement valves for a wide range of diverse applications.

Heating and cooling energy generation	Heating and cooling energy distribution (indoor temperature control)	Sanitary systems
■ Solar thermal energy ■ Geothermal energy ■ Oil, gas, electricity, biomass ■ District heating	■ Underfloor heating ■ Radiators ■ Chilled and heated ceilings ■ Fan coils and chill beams ■ Concrete cores	■ Fresh water

APPLICATION OF THE TACONOVA BALANCING AND MEASURING VALVES IN HEATING SYSTEMS



3-way motor-driven ball valve

Pump

Temperature indication

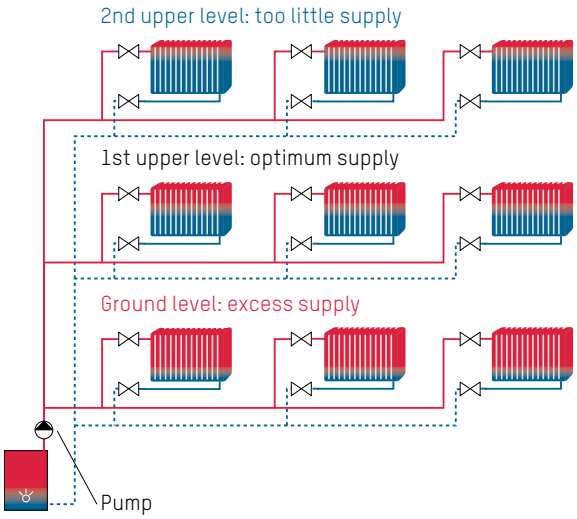
Expansion vessel

Safety valve

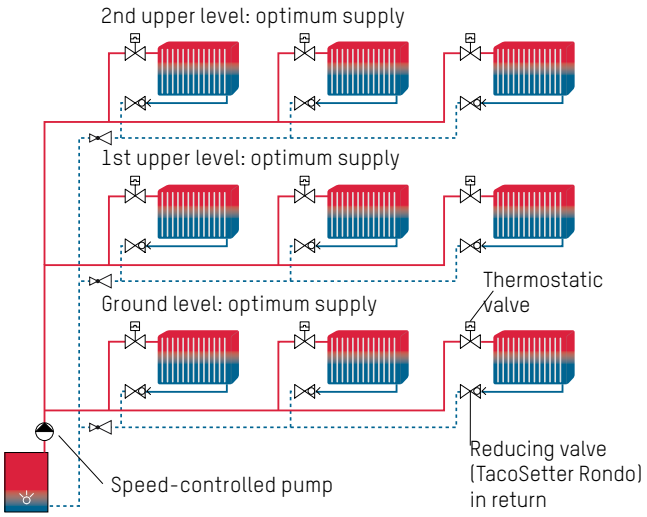
OPTIMUM SUPPLY IS THE TARGET

In order to achieve equally distributed heat appropriate to the surrounding conditions, the calculated volume flows are limited to the flow values that correspond to the relevant rated heat requirement. As a result, radiators, surface heating systems and other consumers in the building can be supplied as required.

Non-balanced system



Hydronically balanced system



NON-BALANCED SYSTEM

The example of a water heating system with radiators shows that a non-balanced heating system can be directly felt due to the indoor temperatures: while radiators closer to the central heating system are overly supplied, the radiators located further away receive inadequate flow volumes.

This means that the radiators on higher floor levels are not supplied enough hot water: they are too cool or respond only slowly.

This deficiency is often compensated in practise with greater pump power, but this leads to flow noises in the system and inefficiently operated energy generators. The result is increased energy consumption for pumps and energy generation.

HYDRONICALLY-BALANCED SYSTEM

Balanced hydraulics are necessary to optimally use energy to obtain the specified flow and return temperatures. As a consequence of the static hydronic balancing, the required flow volumes are adjusted in such a way that all consumers in the building are supplied as desired. In this way, the heat is equally distributed and the lower activity of the burner saves energy. The interaction between a hydronically balanced system and the requirement-based configuration of the consumers enables economic operation of the heat generator, particularly in regard to condensing heating technology and heat pumps.

BALANCING OF EXISTING HEATING SYSTEMS

The optimised distribution of heat in existing heating systems can save a large amount of energy. And that is an ecological and economic demand of our time. National specifications apply to the hydronic balancing of existing heating systems. In some cases there are also financial incentives.

STRAND BALANCING OF HEATING SYSTEMS WITH RADIATORS OR UNDERFLOOR HEATING

To perform hydronic balancing, the corresponding rated volume flows of the system and the individual piping sections must be known. While the calculation results of pipe dimensioning for new systems provide this data for adjustment, this information is usually unavailable for existing systems. For this reason, the rated volume flows must first be calculated on the basis of the rated heat requirement or thermal output of the available heating surfaces and on the temperature difference (between the flow and return water) of the heating system.

The required rated volume flows can be determined by means of a heating requirement calculation (DIN EN 12831).

DETERMINING VOLUME FLOWS ON THE BASIS OF THE CALCULATION OF HEATING REQUIREMENTS (DIN EN 12831)

The rated heating requirements of the individual rooms is obtained from the precise calculation of heat requirement. If this data is not available, the available heating surfaces (radiators or underfloor heating) can be included with the formulae from Taconova (download from taconova.com). The exact thermal output of the heating surfaces included in this way can be determined using manufacturers' documentation. The required volume flows are calculated on the basis of the temperature difference, the calculated specific heating requirement and the specific heating capacity of the carrier medium (typically water).

Formulae for radiator and underfloor heating systems are available, along with empirical values, for the specific heating requirement at **taconova.com**

THE RIGHT PRODUCT FOR EVERY VOLUME FLOW

Setter	Order number	0,3	0,6	1	1,5	2	4	6	8	10	15	20	30	40	50	60	70	80	90	100	200	300	400	500	600	700
TacoSetter Bypass 100																										
	223.22X2.XXX 223.23X1.000					2 – 8 l/min																				
	223.23X0.XXX						4 – 15 l/min																			
	223.23X2.XXX								8 – 30 l/min																	
	223.24X0.XXX							6 – 20 l/min																		
	223.24X1.XXX									10 – 40 l/min																
	223.25X1.XXX											20 – 70 l/min														
	223.26X1.XXX												30 – 120 l/min													
	223.28X1.XXX														50 – 200 l/min											
TacoSetter Bypass Solar 130/185																										
	223.238X.XXX					2 – 12 l/min																				
	223.238X.XXX								8 – 20 l/min																	
	223.248X.XXX									10 – 40 l/min																
	223.2580.000											20 – 70 l/min														
TacoSetter Bypass Flange																										
	223.2151.000															60 – 325 l/min										
	223.2251.000																75 – 450 l/min									
	223.2351.000																			100 – 650 l/min						
TacoSetter Inline 100																										
	223.1202.000	0,3 – 1,5 l/min																								
	223.12X3.XXX		0,6 – 2,4 l/min																							
	223.12X4.XXX			1 – 3,5 l/min																						
	223.12X8.XXX					2 – 8 l/min																				
	223.12X9.XXX						3 – 12 l/min																			
	223.1300.000						4 – 15 l/min																			
	223.1302.000								8 – 30 l/min																	
	223.1305.000									10 – 40 l/min																
TacoSetter Inline 130																										
	223.7556.334				1,5 – 6 l/min																					
	223.7566.334						4 – 16 l/min																			
	223.7576.334								8 – 28 l/min																	
	223.7586.000									10 – 40 l/min																
TacoSetter Rondo																										
	223.3206.XXX		0,6 – 8 l/min																							
TacoSetter Tronic																										
	223.7702.000			1 – 12 l/min																						
	223.7704.000					2 – 40 l/min																				

OPTIMIZING THE ENTIRE SYSTEM THROUGH HYDRONIC BALANCING

A perfectly adjusted heating system ensures an even level of heat at all locations. This increases comfort, reduces CO^2 emissions and cuts energy consumption.

BENEFITS AT THE PLANNING STAGE

- Simplest system design and installation control
- Planning certainty and compliance with the relevant regulations and standards in heating and sanitary planning
- Product safety thanks to durable European valves and accessories

BENEFITS AT THE INSTALLATION STAGE

- Time-saving regulation of flow rates without any need for conversion
- Simple control of flow rates during maintenance and testing without requiring measurement devices
- Simple implementation of static hydronic balancing for existing systems
- Compact regulation in pipe installations

THE ORIGINAL

The TacoSetter Bypass, referred to in the branch as just «TacoSetter», is the classic model of balancing valves. The popular and reliable original for static hydronic balancing indicates the flow volume by means of a scale directly in a bypass test object or in the valve/accessories. The TacoSetter Bypass has been part of the Taconova portfolio since 1985. While retaining its trusted attributes, it has been continuously developed even further. Along with the standard version, there are also solar versions with greater temperature resistance (up to 185 °C).


D
C
B
A
l/min
40
35
30
25
20
15
TACOSETTER BYPASS 100

TACOSETTER BYPASS 100

DESCRIPTION

- Balancing and shut-off valve
- Hydronic balancing, volume flow measurement and inspection at the consumer or in a subsystem

ADVANTAGES

- Direct visual volume flow control (viewing glass)
- Required water flows are precisely, quickly, easily and continuously variably adjusted
- No expensive auxiliary devices (measuring devices, charts, tables) required
- No additional shut-off valve needed
- Can be replaced or serviced under full system pressure
- Minimal pressure loss
- Can be readjusted at any time

FUNCTIONS

- Automatic shut-off bypass operating in parallel to the main volume flow with measuring and indication elements (viewing glass with a scale in l/min)
- Displacement principle of an impact element held in a measuring tube with a counterspring
- The index mark is the lower edge of the float element
- The test object is in a bypass to the main volume flow and is therefore not constantly exposed to flow; it is activated as required by opening self-locking shut-off valves by pressing and holding in place the handles; activation and release of the test object have no effect on the main volume flow

MATERIALS

- Housing: brass
- Test object: plastic
- Inner parts: stainless steel, brass and plastic
- Viewing glass: heat-resistant, shock-resistant plastic
- Seals: EPDM

TECHNICAL DATA

- k_{VS}-value and measurement range: see tables across the page
- Operating temperature $T_{0\,max}$: 100 °C
- Operating pressure $P_{0\,max}$: 10 bar
- Measuring accuracy
- Measurement range 20 – 80 % = ± 5 % of the final value
- Measurement range to 20 % and above 80 % = ± 10 % of the final value
- Female thread Rp (cylindrical) as per DIN 2999/ISO 7 or
- Male thread, cylindrical (G) as per ISO 228
- Installation position: in the flow direction in any position (360°)

FLOW MEDIA

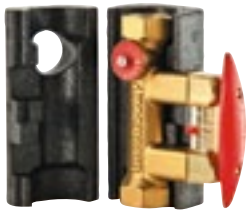
- Water mixtures with typical corrosion and glycol additives
- Hot water
- Cooling water
- Drinking water (SVGW, ACS-certified)

TACOSETTER BYPASS 100 - MODELS

BALANCING VALVE WITH FEMALE THREAD

Brass, $T_{0\,max}$: 100 °C, $P_{0\,max}$: 10 bar, silicone-free model on request

Order no.	DN	Rp x Rp	k_{VS} (m³/h)	Range (l/min)
223.2262.000	15	½" x ½"	1,95	2 – 8
223.2361.000	20	¾" x ¾"	1,95	2 – 8
223.2360.000	20	¾" x ¾"	3,3	4 – 15
223.2362.000	20	¾" x ¾"	5	8 – 30
223.2460.000	25	1" x 1"	5,1	6 – 20
223.2461.000	25	1" x 1"	8,1	10 – 40
223.2561.000	32	1¼" x 1¼"	17	20 – 70
223.2661.000	40	1½" x 1½"	30	30 – 120
223.2861.000	50	2" x 2"	54	50 – 200



BALANCING VALVE WITH FEMALE THREAD WITH INSULATION BOX

$T_{0\,max}$ insulation box: -30 – 130 °C

Order no.	DN	Rp x Rp	k_{VS} (m³/h)	Range (l/min)
223.2262.380	15	½" x ½"	1,95	2 – 8
223.2360.380	20	¾" x ¾"	3,3	4 – 15
223.2362.380	20	¾" x ¾"	5	8 – 30
223.2460.380	25	1" x 1"	5,1	6 – 20
223.2461.380	25	1" x 1"	8,1	10 – 40
223.2561.380	32	1¼" x 1¼"	17	20 – 70
223.2661.380	40	1½" x 1½"	30	30 – 120
223.2861.380	50	2" x 2"	54	50 – 200

BALANCING VALVE WITH MALE THREAD

Brass; $T_{0\,max}$: 100 °C; $P_{0\,max}$: 10 bar

Order no.	DN	G x G	k_{VS} (m³/h)	Range (l/min)
223.2272.000	20	1" x 1"	2,2	2 – 8
223.2370.000	20	1" x 1"	3,3	4 – 15
223.2372.000	20	1" x 1"	5	8 – 30
223.2470.000	25	1¼" x 1¼"	5,1	6 – 20
223.2471.000	25	1¼" x 1¼"	8,1	10 – 40
223.2571.000	32	1½" x 1½"	17	20 – 70

BALANCING VALVE WITH MALE THREAD – WITH INSULATION BOX

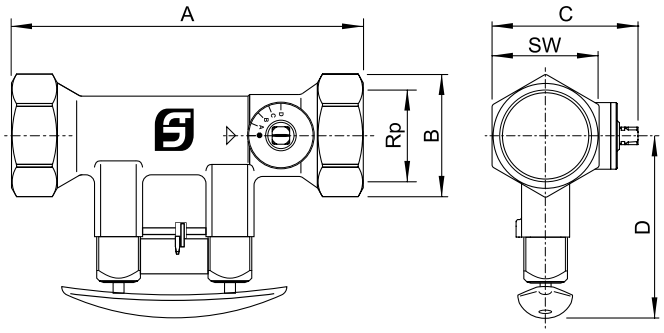
$T_{0\,max}$ insulation box: -30 – 130 °C

Order no.	DN	G x G	k_{VS} (m³/h)	Range (l/min)
223.2272.380	20	1" x 1"	2,2	2 – 8
223.2370.380	20	1" x 1"	3,3	4 – 15
223.2372.380	20	1" x 1"	5	8 – 30
223.2470.380	25	1¼" x 1¼"	5,1	6 – 20
223.2471.380	25	1¼" x 1¼"	8,1	10 – 40
223.2571.380	32	1½" x 1½"	17	20 – 70

TACOSETTER BYPASS 100 – DIMENSIONS

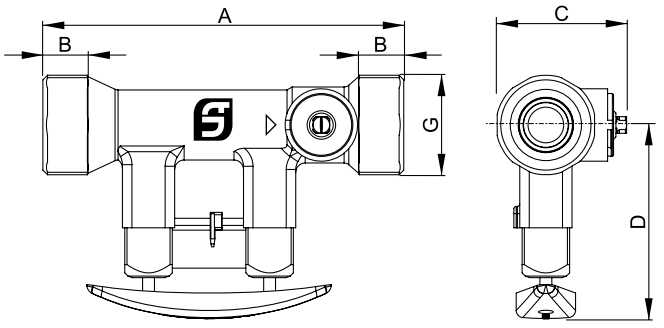
DIMENSIONS FEMALE THREAD

Order no.	DN	A	B	C	D	SW	RP
223.2262.000	15	142	39	46	79	34	½"
223.2360.000	20	129	39	46	79	34	¾"
223.2362.000	20	129	39	46	79	34	¾"
223.2460.000	25	152	47	58	82	41	1"
223.2461.000	25	152	47	58	82	41	1"
223.2561.000	32	161	56	65	84	49	1¼"
223.2661.000	40	173	64	79	90	59	1½"
223.2861.000	50	197	76	91	97	70	2"



DIMENSIONS MALE THREAD

Order no.	DN	A	B	C	D	G
223.2272.000	20	129	15	46	66	1"
223.2370.000	20	129	15	46	66	1"
223.2372.000	20	129	15	46	66	1"
223.2470.000	25	152	18	58	69	1¼"
223.2471.000	25	152	18	58	69	1¼"
223.2571.000	32	161	20	65	71	1½"



TACOSETTER BYPASS 100 – ACCESSORIES AND REPLACEMENT PARTS

INSULATION BOX FOR BALANCING VALVE TACOSETTER BYPASS

EPP, T_B -30 – 130 °C

Order no.	For
296.2321.004	DN 15 and DN 20
296.2322.004	DN 25
296.2323.004	DN 32
296.2324.004	DN 40
296.2325.004	DN 50

SIGHT GLASS (COMPLETE) AND SEAL

Order no.	Range (l/min)	fits
298.2333.020	2 – 8	223.2262/2272.000
298.2334.020	4 – 15	223.2360/2370.000
298.2335.020	8 – 30	223.2362/2372.000
298.2342.020	6 – 20	223.2460/2470.000
298.2343.020	10 – 40	223.2461/2471.000
298.2352.020	20 – 70	223.2561/2571.000
298.2362.020	30 – 120	223.2661.000
298.2382.020	50 – 200	223.2861.000

SCREW CONNECTION FOR MAPRESS PRESS FITTINGS

Comprises a stainless steel compression sleeve, cap nut and seal

Order no.	R x mm	For	Fits
210.7202.000T	½" x 15	Female thread	DN 15
210.7203.000T	¾" x 15	Female thread	DN 20
210.7204.000T	1" x 22	Female thread	DN 25
210.7205.000T	1¼" x 28	Female thread	DN 32

Order no.	G x mm	For	Fits
210.7103.000T	¾" x 15	Male thread	DN 15
210.7104.000T	1" x 22	Male thread	DN 20
210.7105.000T	1¼" x 28	Male thread	DN 25
210.7106.000T	1½" x 35	Male thread	DN 32

For other screw connections, see page 25

TACOSETTER BYPASS SOLAR 130/185

DESCRIPTION

- Balancing and shut-off valve
- Hydronic balancing and flow control in solar systems
- Solar 185 version: specially suited for balancing roof collectors, even under difficult external conditions

ADVANTAGES

- Direct visual volume flow control (viewing glass)
- For high temperatures (up to 185 °C)
- Required water flows are precisely, quickly, easily and continuously variably adjusted
- No expensive auxiliary devices (measuring devices, charts, tables) required
- No additional shut-off valve needed
- Bypass can be replaced under full system pressure by sealing plugs
- Minimal pressure loss

FUNCTIONS

- See TacoSetter Bypass 100
- With the high-temperature model (185) the bypass is replaced after completed adjustment by sealing plugs so that full operation remains guaranteed up to 195 °C (temporarily)

MATERIALS

- Housing: brass
- Test object: plastic
- Inner parts: stainless steel, brass and plastic
- Viewing glass: borosilicate
- Seals: EPDM

TECHNICAL DATA

- k_{VS}-value and measurement range: see tables across the page
- Operating temperature $T_{0\,max}$:
  - Bypass Solar 130: 130 °C
  - Bypass Solar 185 with sealing plugs: 185 °C (temporarily 195 °C)
- Operating pressure $P_{0\,max}$:
  - Bypass Solar 130: 8 bar
  - Bypass Solar 185 with sealing plugs: 16 bar
- Measuring accuracy: ± 10 % of the final value
- Female thread Rp (cylindrical) as per DIN 2999/ISO 7
- Male thread, cylindrical (G) as per ISO 228
- Installation position: in flow direction in any position (360 °)

FLOW MEDIA

- Water mixtures with typical corrosion and glycol additives (see «Correction Curves» document at taconova.com)
- Hot water (see also standard version)

TACOSETTER BYPASS SOLAR 130 – MODELS

BALANCING VALVE WITH FEMALE THREAD

Brass, $T_{0\,max}$: 130 °C , $P_{0\,max}$: 8 bar

Order no.	DN	Rp x Rp	k_{VS} (m³/h)	Range (l/min)
223.2380.000	20	¾" x ¾"	2,2	2 – 12
223.2381.000	20	¾" x ¾"	5	8 – 20
223.2482.000	25	1" x 1"	8,1	10 – 40

BALANCING VALVE WITH MALE THREAD

Brass, $T_{0\,max}$: 130 °C , $P_{0\,max}$: 8 bar

Order no.	DN	G x G	k_{VS} (m³/h)	Range (l/min)
223.2380.350	20	1" x 1"	2,2	2 – 12
223.2381.350	20	1" x 1"	5	8 – 20
223.2482.350	25	1¼" x 1¼"	8,1	10 – 40

TACOSETTER BYPASS SOLAR 185 – MODELS

BALANCING VALVE WITH FEMALE THREAD

Brass, $T_{0\,max}$: 185 °C , temp. 195 °C , $P_{0\,max}$: 16 bar, with lock set in each case (included)

Order no.	DN	Rp x Rp	k_{VS} (m³/h)	Range (l/min)
223.2382.000	20	¾" x ¾"	2,2	2 – 12
223.2383.000	20	¾" x ¾"	5	8 – 30
223.2480.000	25	1" x 1"	8,1	10 – 40
223.2580.000	32	1¼" x 1¼"	17	20 – 70

BALANCING VALVE WITH MALE THREAD

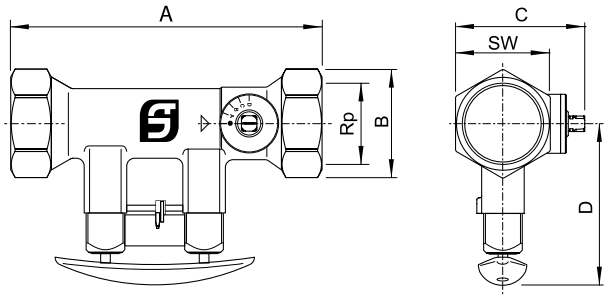
Brass, $T_{0\,max}$: 185 °C , temp 195 °C , $P_{0\,max}$: 16 bar, with lock set in each case (included)

Order no.	DN	G x G	k_{VS} (m³/h)	Range (l/min)
223.2382.385	20	1" x 1"	2,2	2 – 12
223.2383.385	20	1" x 1"	5	8 – 30

TACOSETTER BYPASS SOLAR 130/185 – DIMENSIONS

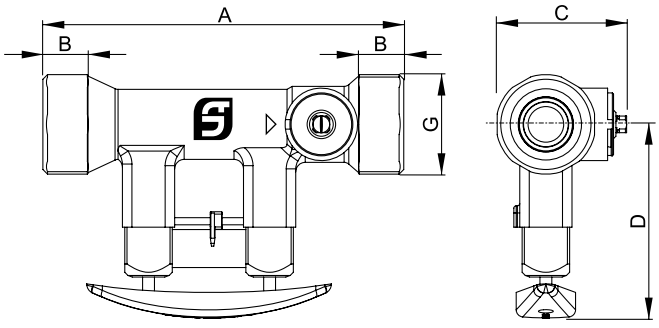
DIMENSIONS OF FEMALE THREAD

Order no.	DN	A	B	C	D	SW	RP
223.2380.000 / 223.2382.000	20	129	39	46	79	34	¾"
223.2381.000 / 223. 2383.000	20	129	39	46	79	34	¾"
223.2482.000 / 223. 2480.000	25	152	47	58	82	41	1"
223.2580.000	32	161	56	65	84	49	1¼"



DIMENSIONS OF MALE THREAD

Order no.	DN	A	B	C	D	G
223.2380.350	20	129	12	46	79	1"
223.2381.350	20	129	12	46	79	1"
223.2482.350	25	152	15	58	82	1¼ "
223.2382.385	20	129	12	46	79	1"
223.2383.385	20	129	12	46	79	1"



TACOSETTER BYPASS SOLAR 130/185 – ACCESSORIES AND REPLACEMENT PARTS

INSULATION BOX FOR BALANCING VALVE TACOSETTER BYPASS

EPP, $T_{0\,max}$: -30 – 130 °C

Order no.	For
296.2321.004	DN 15 and DN 20
296.2322.004	DN 25
296.2323.004	DN 32
296.2324.004	DN 40
296.2325.004	DN 50

SIGHT GLASS (COMPLETE) AND SEALS

Order no.	Model (l/min)	Fits
298.2336.020	2 – 12	223.2380.000/223.2380.350 223.2382.000/223.2382.385
298.2337.020	8 – 20	223.2381.000/223.2381.350
298.2338.020	8 – 30	223.2383.000/223.2383.385
298.2344.020	10 – 40	223.2482.000/223.2482.350 223.2480.000
298.2353.020	20 – 70	223.2580.000

LOCK SET FOR TACOSETTER BYPASS 130/185

Order no.	Fits
296.2340.003	All versions

Included with delivery for Solar 185 model

SCREW CONNECTION WITH MALE THREAD (CONICAL) ACCORDING TO DIN 2999

Order no.	G x R	For	Fits
210.6630.000	¾" x ½"	Inner thread Rp ½"	DN 15
210.6631.000	1" x ½"	Inner thread Rp ½"	DN 15
210.6632.000	1" x ¾"	Inner thread Rp ¾"	DN 20
210.6633.000	1¼" x 1"	Inner thread Rp 1"	DN 25

SCREW CONNECTION WITH SOLDER CONNECTION

Order no.	G x mm	For	Fits
210.5331.019	1" x 18	Copper pipe ø 18 mm	DN 15 AG
210.5332.019	1" x 22	Copper pipe ø 22 mm	DN 20 AG
210.5334.003	1¼" x 28	Copper pipe ø 28 mm	DN 25 AG

TACOSETTER BYPASS FLANGE

DESCRIPTION

- Balancing and shut-off valve
- Hydronic balancing, volume flow measurement and inspection at the consumer or in a subsystem

ADVANTAGES

- Direct visual flow control (viewing glass)
- For large volume flows up to 650 l/min
- Required water flows are precisely, quickly, easily and continuously variably adjusted
- No expensive auxiliary devices (measuring devices, charts, tables) required
- High measuring precision
- Maintenance possible under full operating pressure
- Installation of a filling or drain valve possible
- No additional shut-off valve needed
- Minimal pressure loss

FUNCTIONS

- Automatic shut-off bypass operating in parallel to the main volume flow with measuring and indication elements (viewing glass with a scale in l/min)
- Displacement principle of an impact element held in a measuring tube with a counterspring
- Flow sensor (bypass) flange-mounted on the side of the housing
- Two shut-off valves separate the flow sensor in regular operation from the valve housing
- The flow rate is only indicated once both valves are open
- The flow measurement indicated by the flow sensor does not change if the shut-off valves for the bypass are then closed during operation
- The index mark is the lower edge of the float element

TECHNICAL DATA

- k_{VS}-value and measurement range: see table across the page
- Operating temperature $T_{0\,max}$: 100 °C
- Operating pressure $P_{0\,max}$: 10 bar
- Measuring accuracy: ± 5 % of the final value
- Installation position: in the flow direction in any position (360°)

MATERIALS

- Housing: gray iron
- Test object: brass
- Inner parts: stainless steel and plastic
- Viewing glass: heat-resistant, shock-resistant plastic
- Seals: EPDM

FLOW MEDIA

- Water mixtures with typical corrosion and glycol additives
- Hot water
- Cooling water

TACOSETTER BYPASS FLANGE – MODELS

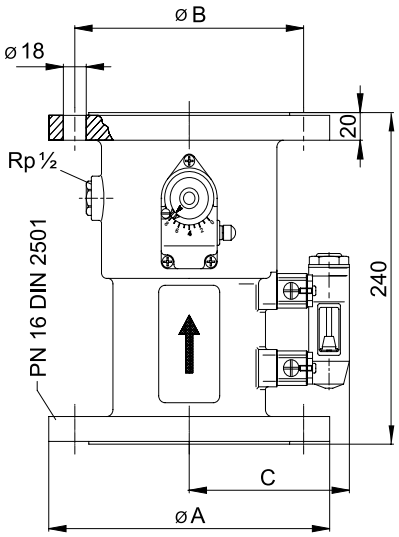
BALANCING VALVE, GRAY IRON, GRAY COATING, FLANGE DIN/PN 16

$T_{0\,max}$: 100 °C , $P_{0\,max}$: 10 bar

Order no.	DN	k_{VS} (m³/h)	Range (l/min)	Weight (kg)
223.2151.000	65	85	60 – 325	13,9
223.2251.000	80	166	75 – 450	16,5
223.2351.000	100	208	100 – 650	19,7

TACOSETTER BYPASS FLANGE – DIMENSIONS

Order no.	DN	A	B	C	ø 18
223.2151.000	65	185	145	110	4 Holes
223.2251.000	80	200	160	118	8 Holes
223.2351.000	100	220	180	128	8 Holes



TACOSETTER BYPASS FLANGE – ACCESSORIES AND REPLACEMENT PARTS

FULL TEST OBJECT WITH FLANGE AND SEALS

Order no.	Model (l/min)	Fits
298.2321.000	60 – 325	223.2151.000
298.2322.000	75 – 450	223.2251.000
298.2323.000	100 – 650	223.2351.000

CLEANING BRUSH FOR TACOSETTER FLANGE

Order no.
296.2302.000

THE MULTITALENTED MODEL

TacoSetter Inline is the multitalented model of the balancing valves.
It can be used to directly adjust, indicate and shut off the flow.
The valve is used for underfloor heating, heating circuit distributors,
sanitary systems, cooling circuits, heat pumps and solar systems.

TACOSETTER INLINE 100/130

DESCRIPTION

- Balancing and shut-off valve
- Hydronic balancing and volume flow control directly at the consumer or in a subsystem
- TacoSetter Inline 130 can be connected directly to the suction nozzles of a pump

ADVANTAGES

- Direct visual flow control (viewing glass)
- For flow volumes from 0.3 – 40 l/min
- Required water flows are precisely, quickly, easily and continuously variably adjusted
- No expensive auxiliary devices (measuring devices, charts, tables) required
- TacoSetter Inline 100 is certified for drinking water usage
- TacoSetter Inline 130 is available for high temperatures (up to 130 °C) in solar circuits with or without a glycol scale

FUNCTIONS

- Flow meter with viewing glass (l/min) integrated into the housing
- Displacement principle of an impact element held in a measuring tube with a counterspring
- The index mark is the lower edge of the float element
- Adjustment with a screwdriver used on the adjusting screw

TECHNICAL DATA

- k_{VS}-value and measurement range: see tables across the page
- Operating temperature $T_{0\,max}$:
  - Inline 100: 100 °C
  - Inline 130: 130 °C (temporarily 160 °C)
- Operating pressure $P_{0\,max}$:
  - Inline 100: 10 bar
  - Inline 130: 8 bar
- Measuring accuracy: ± 10 % of the final value
- Connection thread: compliant with DIN 2999/ISO 7 or ISO 228
- Installation position: in the flow direction in any position (360 °)

MATERIALS

- Housing: brass or dezincification-resistant brass
- Test object: plastic
- Inner parts: stainless steel and plastic
- Viewing glass: heat-resistant, shock-resistant plastic or borosilicate
- Seals: EPDM

FLOW MEDIA

- Water mixtures with typical corrosion and glycol additives (see «Correction Curves» document at taconova.com)
- Hot water
- Cold water
- TacoSetter Inline 100: drinking water (SVGW, ACS and KTW-certified)

TACOSETTER INLINE 100 – MODELS

BALANCING VALVE

Brass, $T_{0\,max}$: 100 °C , $P_{0\,max}$: 10 bar

Order no.	DN	G x Rp	k_{VS} (m³/h)	Range (l/min)
223.1202.000	15	¾" x ½"	0,25	0,3 – 1,5
223.1203.000	15	¾" x ½"	0,6	0,6 – 2,4
223.1204.000	15	¾" x ½"	1,35	1 – 3,5
223.1208.000	15	¾" x ½"	1,8	2 – 8
223.1209.000	15	¾" x ½"	1,85	3 – 12

Order no.	DN	G x G	k_{VS} (m³/h)	Range (l/min)
223.1233.000	15	¾" x ¾"	0,6	0,6 – 2,4
223.1234.000	15	¾" x ¾"	1,35	1 – 3,5
223.1238.000	15	¾" x ¾"	1,8	2 – 8
223.1239.000	15	¾" x ¾"	1,85	3 – 12
223.1300.000	20	1" x 1"	5,0	4 – 15
223.1302.000	20	1" x 1"	5,0	8 – 30
223.1305.000	20	1" x 1"	5,0	10 – 40

BALANCING VALVE (DEZINCIFICATION-RESISTANT)

Brass, $T_{0\,max}$: 100 °C , $P_{0\,max}$: 10 bar

Order no.	DN	G x Rp	k_{VS} (m³/h)	Range (l/min)
223.1204.104	15	¾" x ½"	1,35	1 – 3,5
223.1208.104	15	¾" x ½"	1,8	2 – 8
223.1209.104	15	¾" x ½"	1,85	3 – 12

Order no.	DN	G x G	k_{VS} (m³/h)	Range (l/min)
223.1232.104	15	¾" x ¾"	0,25	0,3 – 1,5
223.1233.104	15	¾" x ¾"	0,6	0,6 – 2,4
223.1234.104	15	¾" x ¾"	1,35	1 – 3,5
223.1238.104	15	¾" x ¾"	1,8	2 – 8

TACOSETTER INLINE 130 – MODELS

BALANCING VALVE (GLYCOL SCALE, VISCOSITY: 2,3 MM²/S)

Brass, $T_{0\,max}$: 130 °C , $P_{0\,max}$: 8 bar

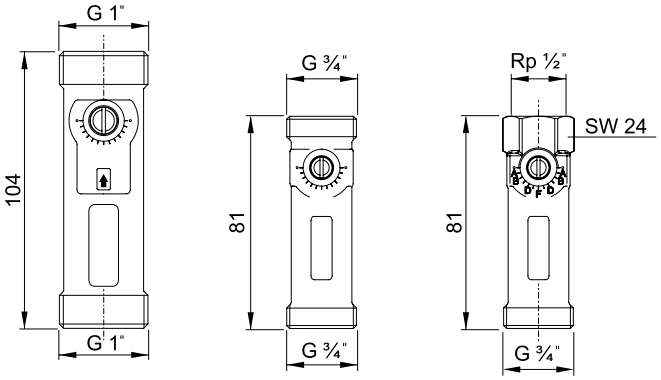
Order no.	DN	G x G	k_{VS} (m³/h)	Range (l/min)
223.7556.334	20	1" x 1" A	1,8	1,5 – 6
223.7566.334	20	1" x 1" A	4,76	4 – 16
223.7576.334	20	1" x 1" A	5,44	8 – 28

BALANCING VALVE (WATER SCALE)

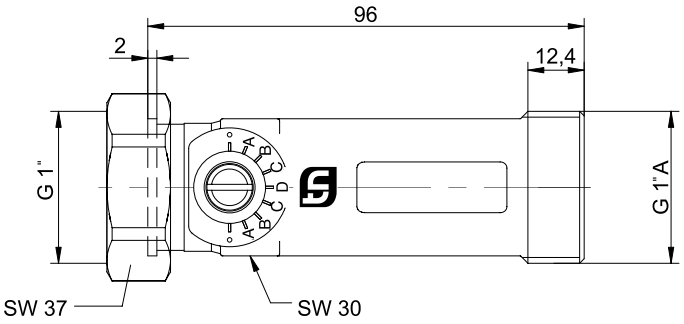
Brass, $T_{0\,max}$: 130° C, $P_{0\,max}$: 8 bar

Order no.	DN	G x G	k_{VS} (m³/h)	Range (l/min)
223.7586.000	20	1" x 1" A	5,0	10 – 40

TACOSETTER INLINE 100 – DIMENSIONS



TACOSETTER INLINE 130 – DIMENSIONS



TACOSETTER INLINE 100 – ACCESSORIES AND REPLACEMENT PARTS

CLEANING BRUSH FOR TACOSETTER INLINE

Order no.	For
296.2301.000	DN 15
296.2302.000	DN 20

SCREW CONNECTIONS FOR COPPER PIPE

Comprising a cap nut, clamp ring and support sleeve

Order no.	G x mm	For	Fits
210.3325.000	¾" x 15	Copper pipe 15/1	DN 15

SCREW CONNECTIONS FEMALE THREAD RP

Comprises a cap nut and insert

Order no.	G x R	Version for
210.6221.000	¾" x ½"	½" thread, conically sealing, dezincification-resistant
210.6632.000 *	1" x ¾"	¾" thread, flat-sealing
210.6633.000 *	1¼" x 1"	1" thread, flat-sealing
210.6222.000	¾" x ½"	½" thread, self-sealing

* 3 parts / set

SCREW CONNECTIONS FOR PLASTIC AND METAL COMPOSITE PIPES (CLAMP CONNECTION)

Comprises cap nut, clamp ring and support sleeve with profile seal
(1 set = 2 x 3 parts)

Order no.	G x mm	For	Fits
210.8612.003	¾" x 12	12 x 2	DN 15
210.8614.003	¾" x 14	14 x 2	DN 15
210.8616.003	¾" x 16	16 x 2	DN 15
210.8617.003	¾" x 17	17 x 2	DN 15
210.8618.003	¾" x 18	18 x 2	DN 15
210.8620.003	¾" x 20	20 x 2	DN 15

SCREW CONNECTION FOR MAPRESS PRESS FITTINGS

Comprises a stainless steel compression sleeve, cap nut and seal

Order no.	R x mm	For	Fits
210.7202.000T	½" x 15	Female thread	DN 15
210.7203.000T	¾" x 15	Female thread	DN 20
210.7204.000T	1" x 22	Female thread	DN 25
210.7205.000T	1¼" x 28	Female thread	DN 32

Order no.	G x mm	For	Fits
210.7103.000T	¾" x 15	Male thread	DN 15
210.7104.000T	1" x 22	Male thread	DN 20

TACOSETTER INLINE 130 – ACCESSORIES AND REPLACEMENT PARTS

SCREW CONNECTIONS FOR COPPER PIPE (SOLDER CONNECTION)

Comprises a cap nut, nipple and solar flat seal (1 set = 2 x 3 parts)

Order no.	G x mm	For
210.5331.019	1" x 18	Copper pipe 18 mm
210.5332.019	1" x 22	Copper pipe 22 mm
210.5334.003	1¼" x 28	Copper pipe 28 mm

FLAT-SEALING SCREW CONNECTION WITH R ¾"

Male thread (glycol-resistant seal)

Order no.	G x R
210.6632.121	1" x ¾"

SOLAR SEAL 1" (GLYCOL-RESISTANT, 10-PIECE SET)

Order no.
296.2334.000

THE COMPACT MODEL

TacoSetter Rondo saves on space and impresses with its functional design. It is suitable for direct installation in the flow or return directions of radiators or manifold bars, and enables uncomplicated adjustment of the volume flow without valve tables. With a measuring and control range of 0.6 – 8 l/min it has been designed for systems with small pipe dimensions. No tools are required for the adjustment and subsequent securing of the valves and accessories with a cover.


L/min
0
2
4
6
8

TACOSETTER RONDO

DESCRIPTION

- Balancing and shut-off valve
- Hydronic balancing and flow control directly on the consumer

ADVANTAGES

- Compact design saves space
- Required water flows are precisely, quickly, easily and continuously variably adjusted with the cover
- Directly visible flow control (viewing glass, not directly surrounded by fluid)
- No expensive auxiliary devices (measuring devices, charts, tables) required
- Minimal pressure loss

FUNCTIONS

- A scale printed on the viewing glass allows the flow volume to be easily read in l/min
- Turning the viewing glass changes the cross-section of the opening of the valve, thereby adjusting to the required flow volume
- The flow measurement is based on the principle of displacement of an impact disk that is guided in a test pipe
- The movement of the impact disk is mechanically transferred to the viewing glass

TECHNICAL DATA

- k_{VS} value: 1 m³/h
- Operating temperature $T_{0\,max}$: 100 °C
- Operating pressure $P_{0\,max}$: 6 bar
- Measurement range: 0.6 – 8 l/min
- Measuring accuracy: < 2 l/min ± 20 % of the final value
- Measuring accuracy: > 2 l/min ± 10 % of the final value
- Female thread Rp as per DIN 2999/ISO 7
- Male thread (G) as per ISO 228
- Installation position: in the flow direction in any position (360 °)

MATERIALS

- Housing: nickel-plated brass
- Test object: plastic
- Inner parts: plastic
- Viewing glass: heat-resistant, shock-resistant plastic
- Seals: EPDM

FLOW MEDIA

- Water mixtures with typical corrosion and glycol additives
- Hot water
- Cooling water

TACOSETTER RONDO – MODELS

BALANCING VALVE, NICKEL-PLATED BRASS

$T_{0\,max}$: 100 °C , $P_{0\,max}$: 6 bar, model for passageway

With screw connection, self-sealing

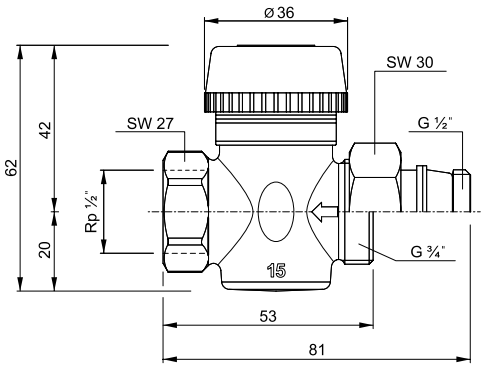
Order no.	DN	G x Rp	k_{VS} (m³/h)	Range (l/min)
223.3206.000	15	½" x ½"	1	0,6 – 8

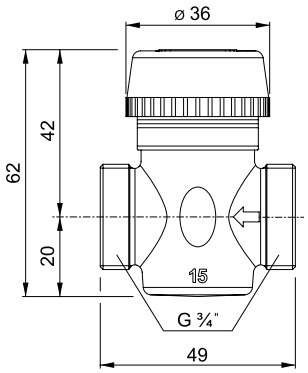
Without screw connection

Order no.	DN	G x Rp	k_{VS} (m³/h)	Range (l/min)
223.3206.325	15	¾" x ½"	1	0,6 – 8

Order no.	DN	G x G	k_{VS} (m³/h)	Range (l/min)
223.3206.341	15	¾" x ¾"	1	0,6 – 8

TACOSETTER RONDO – DIMENSIONS





Cover mounted

TACOSETTER RONDO – ACCESSORIES AND REPLACEMENT PARTS

SCREW CONNECTIONS FOR FEMALE THREAD RP

Comprises a cap nut and insert, nickel-plated

Order no.	DN	G x R	For
210.6221.000	15	¾" x ½"	½" thread, «euro-cone»
210.6222.000	15	¾" x ½"	½", thread, self-sealing

THE HYBRID MODEL

TacoSetter Tronic is a balancing valve with a shut-off function. The valve also enables digital volume flow and temperature measurements. It monitors drinking water, solar and heating systems and supplies accurate data to the electronic system controller. It is suitable for volume flows of 1 – 40 l/min.

TACOSETTER TRONIC

DESCRIPTION

- Balancing and shut-off valve with electronic measurement function
- Digital volume flow and temperature measurement for monitoring and provision of data for the control of pumps and valves or for heat quantity metering
- Provides information to the electronic system controller

ADVANTAGES

- Very accurate measurements
- Flow volume measurements from 1 – 40 l/min
- Resistant to glycol
- Can be manually adjusted and locked
- No moving parts
- Minimal pressure loss

FUNCTIONS

- Flow measurement based on the vortex principle
- Swirls occur at the baffle element in the flow in proportion to the flow speed
- The generated swirls are detected by a piezoelectric paddle and evaluated by the integrated electronics

TECHNICAL DATA

- k_{VS} value and measurement range: see table across the page
- Operating temperature $T_{0\,max}$: 120 °C
- Operating pressure $P_{0\,max}$: 8 bar
- Measurement accuracy: 1 – 12 l/min < 3 % of the final value
- Measurement accuracy: 2 – 40 l/min ± 1.5 % of the final value
- Temperature measurement range: 0 – 100 °C
- Measurement parts approved for drinking water
- Viscosity of medium: ≤ 4 mm²/s
- 1" flat-sealed connections
- Protective class: IP44a
- Electrical signals for sensors:
  - Temperature: 0.5 – 3.5 V
  - Volume flow: 0.5 – 3.5 V
  - Ground: 0 V (PE)
  - Power supply: (+5 V DC), PELV
- Male thread cylindrical (G) and female thread (cap nut) G 1" according to ISO 228
- Installation position: in the flow direction (note information given in the technical data sheet)

MATERIALS

- Housing: brass
- Inner parts: stainless steel, brass and plastic
- Sensors: PPS, PPA, PA
- Seals: EPDM

FLOW MEDIA

- Water mixtures with typical corrosion and glycol additives
- Hot water
- Cold water
- Drinking water

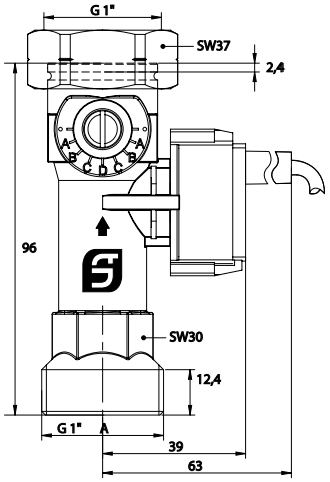
TACOSETTER TRONIC – MODELS

BALANCING VALVE WITH DIGITAL VOLUME FLOW AND TEMPERATURE MEASUREMENT

$T_{O\,max}$: 120 °C , $P_{O\,max}$: 8 bar

Order no.	DN	G x G	k_{VS} (m³/h)	Range (l/min)
223.7702.000	20	1" x 1" A	1,05	1 – 12
223.7704.000	20	1" x 1" A	3,03	2 – 40

TACOSETTER TRONIC – DIMENSIONS



TACOSETTER TRONIC – ACCESSORIES AND REPLACEMENT PARTS

SCREW CONNECTIONS

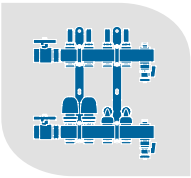
Order no.	Description
210.6632.121	VF 10 flat-sealing screw connection with R ¾" male thread (glycol-resistant seal)
296.2334.000	AX 96 1" solar seal (glycol-resistant)

SOLAR CONTROLLER SOREL

Order no.	Type	Use
296.7016.000	TDC 4	TacoSol solar station (also with a high-efficiency pump)
296.7017.000	WMC 1	For heat quantity metering

PIPE-MOUNTED SENSOR PT1000 (FOR HEAT QUANTITY METERING)

Order no.	Model	Length
296.7015.000	Includes pipe clamp	0,5 m



DISTRIBUTION SYSTEMS

The targeted heating of individual rooms increases the comfort level, reduces energy consumption and allows economical operation of the heating system. For this purpose, optimum energy distribution is essential: At the main manifold in the cellar or service room, the main volume flows are hydraulically balanced and distributed to the different parts of the building. To achieve the desired room and heating circuit temperatures, a fine distribution, using intelligent and reliable distribution systems, is also required on each floor. This takes place, in part, by further hydraulic balancing directly on the manifold bar and, in part, through accurate electronic valve control according to the OPEN/CLOSE principle using room thermostats. The controlled opening and closing of these valves varies according to the heat requirements. Taconova's comprehensive range of distribution systems features optimally matched products designed for many different combinations.

PERFECT INTERACTION

Distribution technology is a core competence of Taconova. Innovative technology and first class components ensure a reliable, cost-saving energy supply where it is needed. Matching distribution systems, balance valves, actuators, room thermostats and connecting modules work together to create the optimum room climate for individual requirements. The selection of high quality products covers all requirements in the field of heating and cooling distribution.

Manifolds	
The completely pre-assembled TacoSys stainless steel manifolds are designed for two to twelve heating circuits. The equipment also includes, among other things, the TopMeter (TacoSys High End) and the TacoVent Vent	■ TacoSys High End ■ TacoSys Value ■ TacoSys Connect

Balancing Valves	
With the well-known and proven balance valve Top Meter, the flow in heating circuits can be directly regulated, indicated and turned off.	■ TopMeter Supply ■ TopMeter Return

Actuators	
The electrothermal actuators NovaDrive and TopDrive are ideal for the manifolds High End and Value. The precision bayonet coupling makes installation easy.	■ NovaDrive NC/NO ■ TopDrive NC ■ NovaDrive Switch ■ NovaDrive DDC

Room thermostats	
Taconova offers a wide range of room thermostats. These work perfectly with the NovaDrive and TopDrive actuators. For new construction and remediation, the cable (EL) and radio (RF) versions are recommended. The radio versions are also particularly suitable for renovation.	■ NovaStat EL (Electronic) ■ NovaStat RF (Radio Frequency)

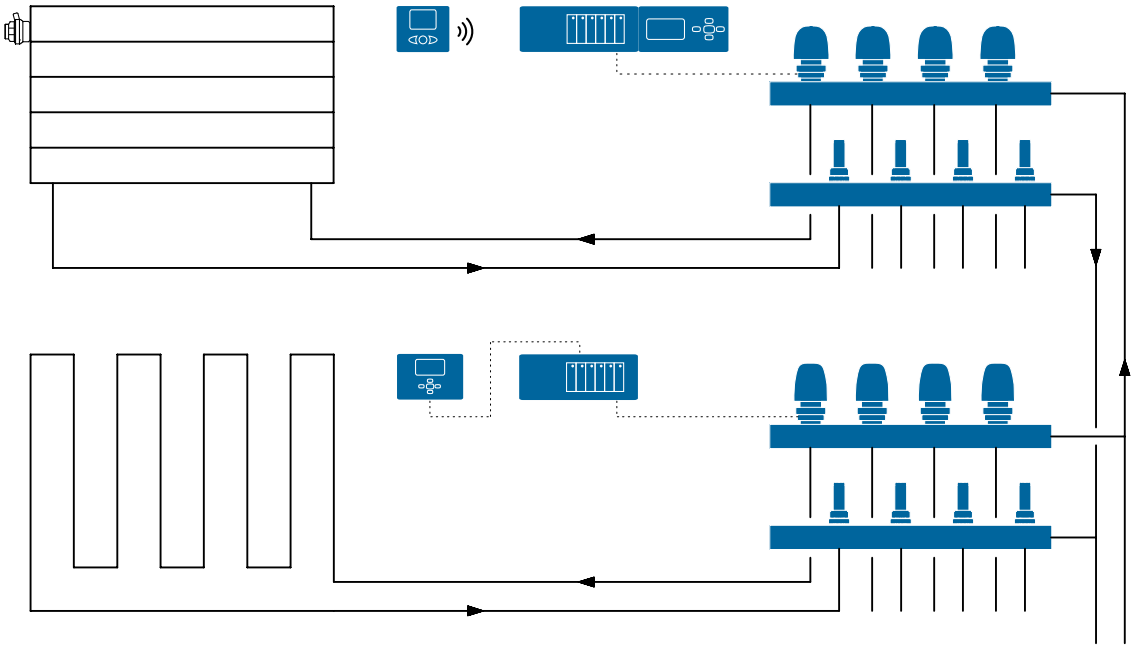
Connecting modules	
For complex room climate requirements in a building, the room thermostats can be combined with open-ended connecting modules.	■ NovaMaster EL (Electronic) ■ NovaMaster RF (Radio Frequency)

APPLICATIONS

Taconova distribution products are primarily used for underfloor heating, but are just as suitable for many other applications:

Heating and cooling energy generation	Heating and cooling energy distribution (room climate)	Sanitary systems
–	■ Underfloor heating ■ Radiators ■ Chilled and heated ceilings ■ Fan coils and chill beams ■ Concrete cores	–

THE USE OF TACONOVA DISTRIBUTION SYSTEMS, ACTUATORS AND ROOM THERMOSTATS IN THE HEATING SYSTEM



COMFORT AND ENERGY EFFICIENCY WITH PANEL HEATING SYSTEMS

Comfort and energy efficiency are key in any modern heating system and provide convincing arguments why a panel heating system is the first choice for home owners and investors alike.

PANEL HEATING SYSTEMS ARE PART OF MODERN ENERGY SYSTEMS

Whether they are used in private homes or open-plan office buildings, low-temperature heating systems offer cozy comfort as well as excellent conditions for using renewable energies and the energy-efficient use of modern heating systems, such as calorific heating systems or heat pumps.
When combined with low temperature heat generation, a panel heating system produces a modern, energy-efficient heating system.

REGULATION OF PANEL HEATING SYSTEMS

Underfloor heating systems require a precise regulation of the flow rate in the individual heating circuits because low temperature panel heating and high temperature heating systems are slow to respond to adjustments.
This response to regulation is largely influenced by the hydronic characteristics of panel heating systems:

- The entire floor or wall surface is used to transmit the heat
- The heat is distributed by means of numerous heating circuits, consisting of long lengths of narrow gauge piping
- The heat is transmitted at a low temperature and with low-level spread

LINK FOR HEAT DISTRIBUTION

Together with the relevant regulators, such as shutoff values and actuators, the heating circuit distributor is thus an important link between the heat generator and the panel heating system and ensures an even level of heat throughout the property.

BALANCING THE SYSTEM HYDRONICS

During commissioning it is important to balance the system hydronics so that all heat consumers are supplied with hot water in line with their heat requirements.
In the main distribution system the hot water volume flow is limited by means of hydronic balancing to the flow rates that correspond to the calculated heat output in the various sections of the building.

FOCUSED DISTRIBUTION FOR INDIVIDUAL HEATING CIRCUITS

In order to achieve the required room temperatures within one floor of a building, the flow rates for the relevant heating circuits in underfloor heating systems are also regulated.
TopMeter balancing valves make it possible to precisely adjust and immediately check the flow rate: the rate can be adjusted and checked on the flow and return bars of the heating circuit distributor in liters per minute.
This makes it possible to regulate a panel heating system centrally by means of the heating circuit distributor and to achieve this on several heating circuits simultaneously, reducing the expenditure of time.

FIRST CHOICE

The simple and efficient operation with the TopMeter means that installation companies can avoid costly adjustments. This makes the TopMeter from Taconova the first choice for regulating distribution systems.

YOUR TRUMP CARD IN SATISFYING CUSTOMERS

Technical distribution products from Taconova are the perfect solution for a wide variety of building types. Specialist planners and tradesmen will benefit from the security of these reliable system solutions and the satisfaction of their customers.

BENEFITS AT THE PLANNING STAGE

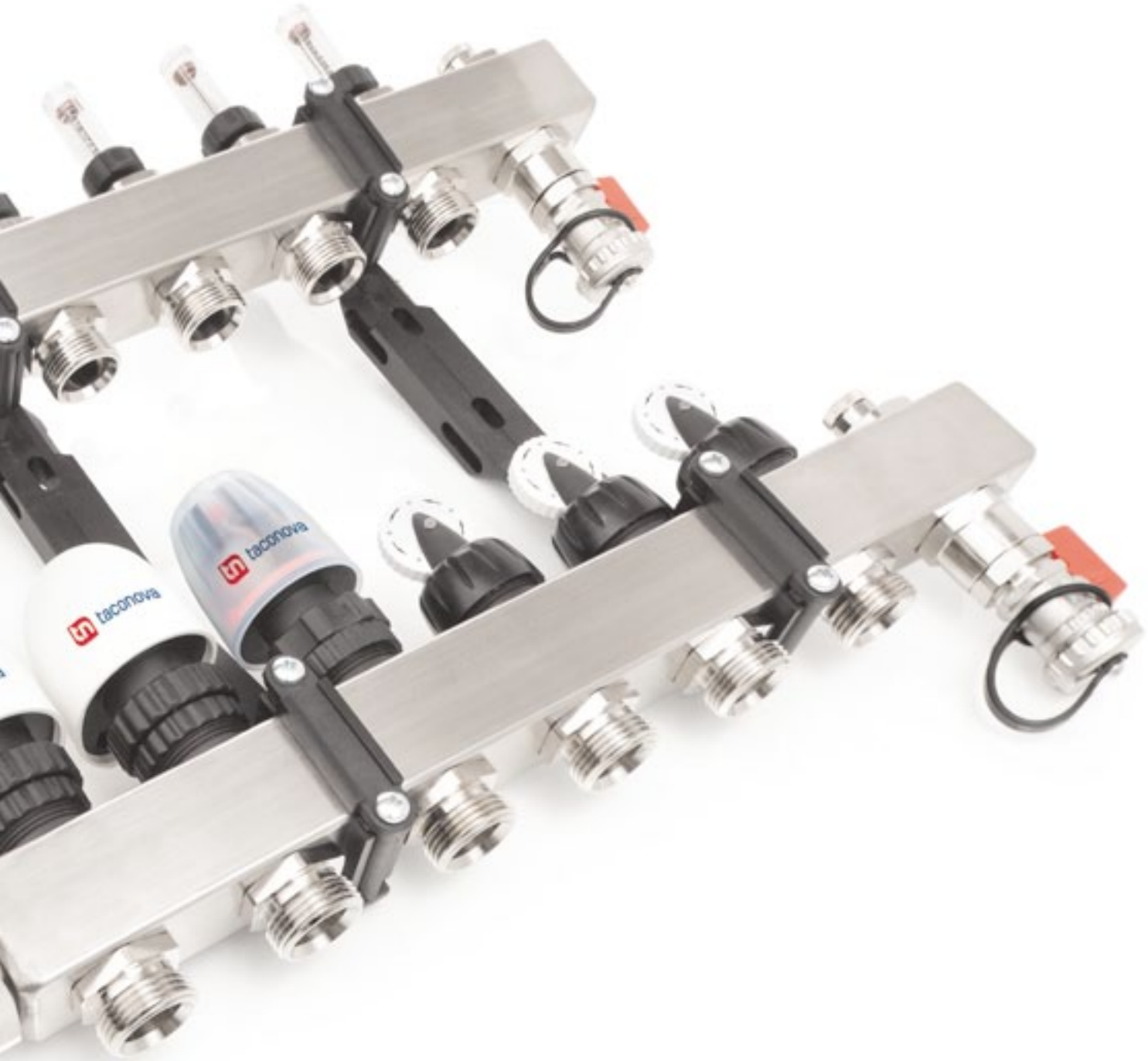
- Reliable compliance with the system layout thanks to simple regulation
- Smooth system operation thanks to automatic venting and lockable flow rate adjustment
- The regulating functions can be expanded at a later point by means of retrofittable actuators
- The comprehensive range, including regulating components, makes tendering processes easy

BENEFITS AT THE INSTALLATION STAGE

- Pre-assembled, ready-to-install distribution systems with a minimum number of screw connections
- Time-saving, reproducible regulation of the flow rates in liters per minute without requiring regulation
- Simple control of flow rates during maintenance and testing without requiring measurement devices
- Precise regulation for constant room temperatures

THE MANIFOLD

The completely pre-assembled TacoSys manifolds ensure optimum heat distribution throughout the building. Robust stainless steel manifold bars, fitted with innovative technology, ensure a reliable and economical supply of energy where it is needed. In the High End version, the well-known TopMeter ensures perfect hydraulic balancing. High End and Value are also ideal in combination with NovaDrive actuators and NovaStat room thermostats. They work together to produce a pleasant, individual room climate.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TACOSYS HIGH END

DESCRIPTION

- Underfloor heating manifold with TopMeter balance valves

ADVANTAGES

- Perfect balancing guaranteed in supply or return thanks to TopMeter
- Robust stainless steel manifold bar
- Manifold valves are designed for the electro-thermal actuators NovaDrive and TopDrive
- Manual adjustments permit reproducible flow settings
- Conical valve form with near-linear valve curve for fine flow adjustment
- Self-centring upper and lower valve parts for absolute precision
- TacoVent air vent automatically vents supply and return
- Easy-to-install offset mounting brackets of glass fibre reinforced plastic with sound-damping lining
- Completely pre-assembled, including filling and draining valves and ball valves

FUNCTIONS

- Designed for from two to twelve heating circuits
- Supply and return bars are connected to the heating system
- With optional screw connections, heating circuits can be easily connected to Eurocone outlets
- The design flow volume is set individually on the TopMeter for each heating circuit
- Manual regulators or room thermostats with actuators ensure individual room comfort

TECHNICAL DATA

- Number of heating circuits and lengths: see table opposite
- Medium temperature: -10 – 70 °C
- Operating pressure $P_{0\,max}$: 6 bar
- Measurement accuracy of TopMeter: ± 10 % of the final value
- All pipe connections: ¾" Eurocone

MATERIALS

- Manifold bar: Polished stainless steel
- Internal parts: Nickel-plated brass, heat and impact resistant plastics
- Mounting brackets: Glass fibre reinforced plastic
- Gaskets: EPD

FLOW MEDIA

- For heating and cooling water with normal corrosion protection additives

TACOSYS HIGH END - TYPE OVERVIEW

UNDERFLOOR HEATING MANIFOLD WITH TOPMETER RETURN (IN RETURN CIRCUIT)

Supply and return bars of stainless steel, for temperatures up to 70 °C and pressure up to 6 bar, including valve with manual regulator in the supply, 2x automatic air vents TacoVent and filling/draining valve, heating circuit connections Eurocone ¾" male thread.

BALL VALVE ¾"

Measuring range 0,5 – 2,5 l/min Order no.	Measuring range 1 – 5 l/min Order no.	Heating circuits	Length with ball valve (mm)
286.2002.000	286.3002.000	2	213
286.2003.000	286.3003.000	3	263
286.2004.000	286.3004.000	4	313
286.2005.000	286.3005.000	5	363
286.2006.000	286.3006.000	6	413
286.2007.000	286.3007.000	7	463
286.2008.000	286.3008.000	8	513
286.2009.000	286.3009.000	9	563
286.2010.000	286.3010.000	10	613
286.2011.000	286.3011.000	11	663
286.2012.000	286.3012.000	12	713

BALL VALVE 1"

Measuring range 0,5 – 2,5 l/min Order no.	Measuring range 1 – 5 l/min Order no.	Heating circuits	Length with ball valve (mm)
286.2402.000	286.3402.000	2	232
286.2403.000	286.3403.000	3	282
286.2404.000	286.3404.000	4	332
286.2405.000	286.3405.000	5	382
286.2406.000	286.3406.000	6	432
286.2407.000	286.3407.000	7	482
286.2408.000	286.3408.000	8	532
286.2409.000	286.3409.000	9	582
286.2410.000	286.3410.000	10	632
286.2411.000	286.3411.000	11	682
286.2412.000	286.3412.000	12	732

WITHOUT BALL VALVE

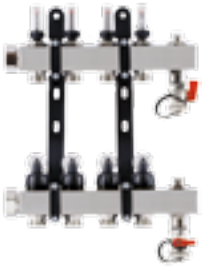
Measuring range 0,5 – 2,5 l/min Order no.	Measuring range 1 – 5 l/min Order no.	Heating circuits	Length without ball valve (mm)
286.2302.000	286.3302.000	2	163
286.2303.000	286.3303.000	3	213
286.2304.000	286.3304.000	4	263
286.2305.000	286.3305.000	5	313
286.2306.000	286.3306.000	6	363
286.2307.000	286.3307.000	7	413
286.2308.000	286.3308.000	8	463
286.2309.000	286.3309.000	9	513
286.2310.000	286.3310.000	10	563
286.2311.000	286.3311.000	11	613
286.2312.000	286.3312.000	12	663

UNDERFLOOR HEATING MANIFOLD WITH TOPMETER SUPPLY (IN SUPPLY CIRCUIT)

Supply and return bars of stainless steel, for temperatures up to 70°C and pressure up to 6 bar, including valve with manual regulator in the supply, 2x automatic air vents TacoVent and filling/draining valve, heating circuit connections Eurocone ¾" male thread

BALL VALVE ¾"

Measuring range 0 – 2,5 l/min Order no.	Measuring range 0 – 5 l/min Order no.	Heating circuits	Length with ball valve (mm)
286.4002.000	286.1002.000	2	213
286.4003.000	286.1003.000	3	263
286.4004.000	286.1004.000	4	313
286.4005.000	286.1005.000	5	363
286.4006.000	286.1006.000	6	413
286.4007.000	286.1007.000	7	463
286.4008.000	286.1008.000	8	513
286.4009.000	286.1009.000	9	563
286.4010.000	286.1010.000	10	613
286.4011.000	286.1011.000	11	663
286.4012.000	286.1012.000	12	713



WITHOUT BALL VALVE

Measuring range 0 – 5 l/min Order no.	Heating circuits	Length without ball valve (mm)
286.1302.000	2	163
286.1303.000	3	213
286.1304.000	4	263
286.1305.000	5	313
286.1306.000	6	363
286.1307.000	7	413
286.1308.000	8	463
286.1309.000	9	513
286.1310.000	10	563
286.1311.000	11	613
286.1312.000	12	663

TACOSYS VALUE

DESCRIPTION

- Underfloor heating manifold without TopMeter

ADVANTAGES

- Robust stainless steel manifold bar
- Manifold valves are designed for the electro-thermal actuators NovaDrive and TopDrive
- Manual adjustments permit reproducible flow settings
- Conical valve form with near-linear valve curve for fine flow adjustment
- Self-centring upper and lower valve parts for absolute precision
- TacoVent air vent automatically vents supply and return
- Easy-to-install offset mounting brackets of glass fibre reinforced plastic with sound-damping lining
- Completely pre-assembled, including filling and draining valves and ball valves

FUNCTIONS

- Designed for from two to twelve heating circuits
- Supply and return bars are connected to the heating system
- With optional screw connections, heating circuits can be easily connected to Eurocone outlets
- Manual regulators or room thermostats with actuators ensure individual room comfort

TECHNICAL DATA

- Number of heating circuits and lengths: see table opposite
- Medium temperature: -10 – 70 °C
- Operating pressure $P_{0\,max}$: 6 bar
- All pipe connections: ¾" Eurocone

MATERIALS

- Manifold bar: Polished stainless steel
- Internal parts: Nickel-plated brass, heat and impact resistant plastics
- Mounting brackets: Glass fibre reinforced plastic
- Gaskets: EPDM

FLOW MEDIA

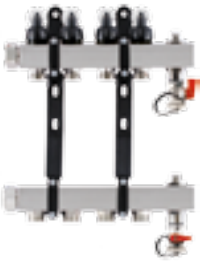
- For heating and cooling water with normal corrosion protection additives

UNDERFLOOR HEATING MANIFOLD WITHOUT TOPMETER

Supply and return bars of stainless steel, for temperatures up to 70 °C and pressure up to 6 bar, including valve with manual regulator in the supply, 2x automatic air vents TacoVent and filling/draining valve, heating circuit connections Eurocone ¾" male thread

BALL VALVE ¾"

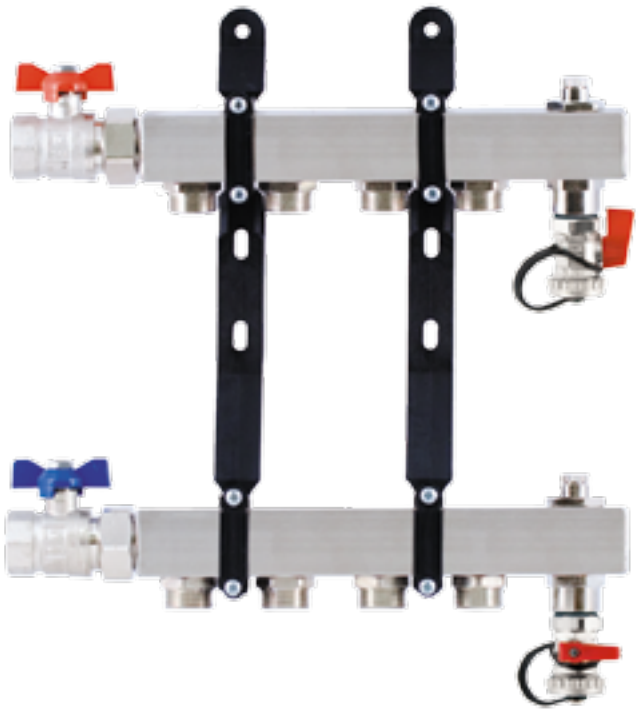
Order no.	Heating circuits	Length with ball valve (mm)
286.6002.000	2	213
286.6003.000	3	263
286.6004.000	4	313
286.6005.000	5	363
286.6006.000	6	413
286.6007.000	7	463
286.6008.000	8	513
286.6009.000	9	563
286.6010.000	10	613
286.6011.000	11	663
286.6012.000	12	713



WITHOUT BALL VALVE

Order no.	Heating circuits	Length without ball valve (mm)
286.6302.000	2	163
286.6303.000	3	213
286.6304.000	4	263
286.6305.000	5	313
286.6306.000	6	363
286.6307.000	7	413
286.6308.000	8	463
286.6309.000	9	513
286.6310.000	10	563
286.6311.000	11	613
286.6312.000	12	663

TACOSYS CONNECT



DESCRIPTION

- Heating circuit connector manifold for radiators

ADVANTAGES

- Robust stainless steel manifold bar
- Pre-drilled on one side, so no additional seal points or unnecessary plugs
- TacoVent air vent automatically vents supply and return
- Easy-to-install offset mounting brackets of glass fibre reinforced plastic with sound-damping lining
- Completely pre-assembled, including filling and draining valves and ball valves

FUNCTIONS

- Designed for from two to twelve heating circuits
- Supply and return bars are connected to the heating system
- With optional screw connections, heating circuits can be easily connected to Eurocone outlets

TECHNICAL DATA

- Number of heating circuits and lengths: see table opposite
- Medium temperature: -10 – 80 °C
- Operating pressure $P_{0\,max}$: 8 bar
- All pipe connections: ¾" Eurocone

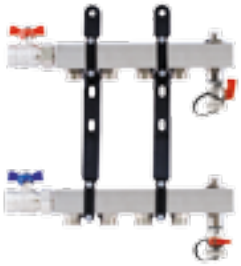
MATERIALS

- Manifold bar: Polished stainless steel
- Internal parts: Brass, heat and impact resistant plastics
- Mounting brackets: Glass fibre reinforced plastic
- Gaskets: EPDM

FLOW MEDIA

- For heating and cooling water with normal corrosion protection additives

TACOSYS CONNECT – TYPE OVERVIEW



HEATING CIRCUIT CONNECTOR MANIFOLD (WITHOUT TOPMETER, MANUAL REGULATION)

Stainless steel supply and return bars, for temperatures up to 80 °C and pressure up to 8 bar, 2x automatic air vents TacoVent and filling/draining valve, heating circuit connections ¾" external thread

BALL VALVE ¾"

Order no.	Heating circuits	Length with ball valve (mm)
287.1002.000	2	213
287.1003.000	3	263
287.1004.000	4	313
287.1005.000	5	363
287.1006.000	6	413
287.1007.000	7	463
287.1008.000	8	513
287.1009.000	9	563
287.1010.000	10	613
287.1011.000	11	663
287.1012.000	12	713

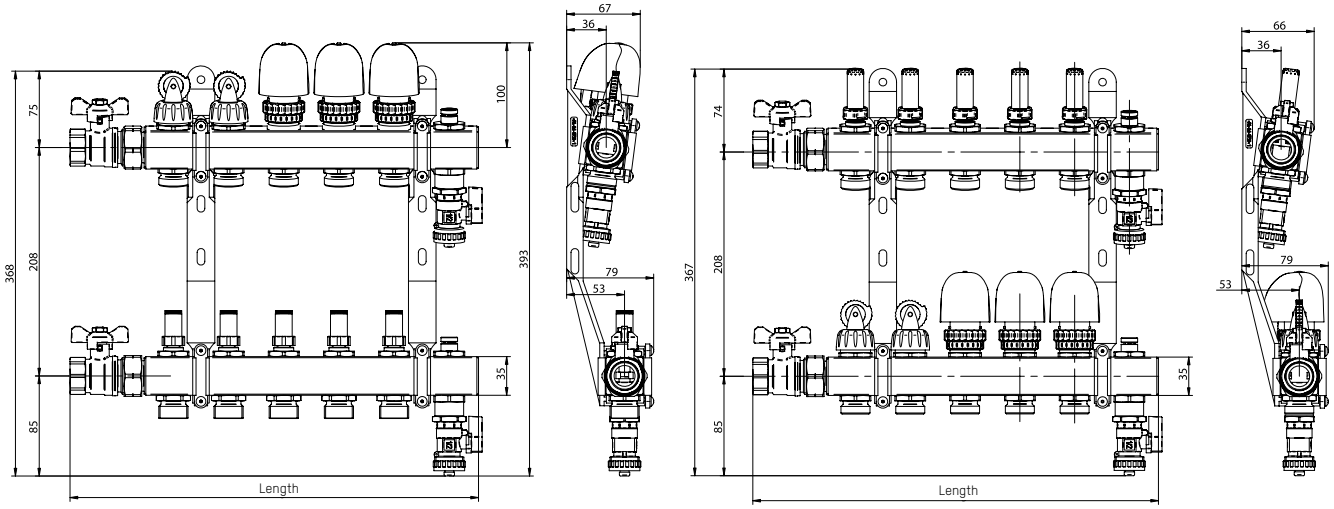
BALL VALVE 1"

Order no.	Heating circuits	Length with ball valve (mm)
287.1402.000 *	2	232
287.1403.000 *	3	282
287.1404.000 *	4	332
287.1405.000 *	5	382
287.1406.000 *	6	432
287.1407.000 *	7	482
287.1408.000 *	8	532
287.1409.000 *	9	582
287.1410.000 *	10	632
287.1411.000 *	11	682
287.1412.000 *	12	732

* on request

TACOSYS – DIMENSIONS BALL VALVE 1" WITH THERMOMETER

Note: These dimensions apply for the TacoSys High End, TacoSys Value and TacoSys Connect



TACOSYS – ACCESSORIES AND REPLACEMENT PARTS

IN-WALL CABINETS, GALVANISED

For from two to twelve heating circuits, cabinet sizes 1 to 6

Order no.	Colour	Cabinet size	Wall recess H x W x D [mm]
282.4103.000T	galvanised	1	740-830 × 464 × 110-160
282.4104.000T	galvanised	2	740-830 × 518 × 110-160
282.4106.000T	galvanised	3	740-830 × 612 × 110-160
282.4107.000T	galvanised	4	740-830 × 752 × 110-160
282.4109.000T	galvanised	5	740-830 × 902 × 110-160
282.4111.000T	galvanised	6	740-830 × 1052 × 110-160

IN-WALL CABINETS, RAL 9010

For from two to twelve heating circuits, cabinet sizes 1 to 6

Order no.	Colour	Cabinet size	Wall recess H x W x D [mm]
282.4203.000T	RAL 9010	1	740-830 × 464 × 110-160
282.4204.000T	RAL 9010	2	740-830 × 518 × 110-160
282.4206.000T	RAL 9010	3	740-830 × 612 × 110-160
282.4207.000T	RAL 9010	4	740-830 × 752 × 110-160
282.4209.000T	RAL 9010	5	740-830 × 902 × 110-160
282.4211.000T	RAL 9010	6	740-830 × 1052 × 110-160

ON-WALL CABINETS, GALVANISED

For from two to twelve heating circuits, cabinet sizes A to E

Order no.	Colour	Cabinet size	External dim. H x W x D [mm]
282.6104.000T	galvanised	A	625 × 495 × 125
282.6106.000T	galvanised	B	625 × 580 × 125
282.6107.000T	galvanised	C	625 × 730 × 125
282.6109.000T	galvanised	D	625 × 880 × 125
282.6112.000T	galvanised	E	625 × 1030 × 125

ON-WALL CABINETS, RAL 9010

For from two to twelve heating circuits, cabinet sizes A to E

Order no.	Colour	Cabinet size	External dim. H x W x D [mm]
282.6204.000T	RAL 9010	A	625 × 495 × 125
282.6206.000T	RAL 9010	B	625 × 580 × 125
282.6207.000T	RAL 9010	C	625 × 730 × 125
282.6209.000T	RAL 9010	D	625 × 880 × 125
282.6212.000T	RAL 9010	E	625 × 1030 × 125

SELECTING THE RIGHT CABINET SIZE

- The size of the distributor is determined by the number of heating circuits
- A decision can be made as to whether a heat counter set (HCS) needs to be installed
- Can be derived from table in accordance with the number of heating circuits

LEGEND

Manifold system with ball valves in supply and return circuit:

O = w/o HCS

◊ = with horizontal HCS

Δ = with vertical HCS

		IN-WALL CABINETS						ON-WALL CABINETS				
Cabinet size		1	2	3	4	5	6	A	B	C	D	E
Internal dimensions		401	455	540	690	840	990	445	530	680	830	980
Number of heating circuits	2	O Δ		◊				O Δ	◊			
	3	O Δ		◊				O Δ	◊			
	4	O	Δ		◊			O	Δ	◊		
	5	O		Δ	◊			O	Δ	◊		
	6		O	Δ	◊				O Δ	◊		
	7			O	Δ	◊			O	Δ	◊	
	8			O	Δ	◊			O	Δ	◊	
	9				O Δ	◊				O Δ	◊	
	10				O	Δ	◊			O	Δ	◊
	11				O	Δ	◊			O	Δ	◊
	12					O Δ	◊				O Δ	◊

HEAT COUNTER SET

Installation set WMZ ¾", incl. immersion sleeve ¼" universal fitting

Order no.	Version
296.8677.000T	horizontal
296.8678.000T	vertical

BALL VALVE, GALVANISED

Order no. (previous)	Dimension	Grip	Length (mm)	Use
296.8655.001	¾" IG x 1" AG	red	57	until Nov. 2010
296.8656.001	¾" IG x 1" AG	blue	57	until Nov. 2010
296.8657.001	1" IG x 1" AG	red	79	until Dec. 2010

Order no. (new)	Dimension	Grip	Length (mm)	Use
298.8630.001	¾" IG x 1" AG	red	50	from Dec. 2010
298.8631.001	¾" IG x 1" AG	blue	50	from Dec. 2010
298.8632.001	1" IG x 1" AG	red	69	from Jan. 2011

BALL VALVE 1" WITH THERMOMETER

Order no.	Dimension	Grip	Version	Length excluding press screw connection (mm)
296.8658.001T	1" IG x 1" AG	blue	Straight	90
296.8659.001T	1" IG x 1" AG	red	Straight	90
296.8649.001T	1" IG x 1" AG	blue	90°	102 (vertical: 48)
296.8650.001T	1" IG x 1" AG	red	90°	102 (vertical: 48)

Press screw connection 1" AG × 22 × 1 mm, additional installation length: 34 mm

MANUAL REGULATOR

Order no.
296.8651.001

FILLING/DRAINING VALVE, GALVANISED ½"

Order no.
296.8653.001

PLASTIC BRACKET

Including noise-damping linings (Set of 2)

Order no.
298.8620.001

SCREW CONNECTIONS FOR PLASTIC AND METAL COMPOSITE PIPES (CLAMP CONNECTION)

Comprising union nut, clamping ring and supporting sleeve with moulded gasket (1 set = 2 x 3 parts)

Order no.	G x mm	For	Fits
210.8614.003	¾" x 14	14 x 2	DN 15
210.8616.003	¾" x 16	16 x 2	DN 15
210.8617.003	¾" x 17	17 x 2	DN 15
210.8618.003	¾" x 18	18 x 2	DN 15
210.8620.003	¾" x 20	20 x 2	DN 15

BALANCE GROUP TOPMETER

Order no.	Type	Range (l/min)
298.8601.001	TopMeter Return	0,5 – 2,5
298.8605.001	TopMeter Return	1 – 5
298.8606.001	TopMeter Supply	0 – 5
298.8609.001	TopMeter Supply	0 – 2,5

VALVE GROUP WITHOUT MANUAL REGULATOR

Order no.	Type
298.8614.001	Valve, metal version
298.8613.001	Valve group, plastic

AIR VENT GROUP WITHOUT FILLING/DRAINING VALVE

Order no.
298.8604.001

SCREW CONNECTOR FOR TACOVENT HYVENT OR VENTILATING VALVE

For replacing the TacoVent Vent with the TacoVent HyVent or the ventilating valve with screw connection (2-piece set)

Order no.	Dimension
296.8654.003	G ⅜"

VENTILATING VALVE

For manual ventilation (2-piece set)
(For use with screw connection no. 296.8654.003)

Order no.	Dimension
298.7052.000	G ⅜"

THE FIRST CHOICE

The TopMeter is the first choice for the regulation of manifold systems. The flow rate through heating and cooling energy circuits can be regulated, indicated and shut off directly on the supply or return bar.

TOPMETER SUPPLY/RETURN

DESCRIPTION

- Balancing and shut-off valve
- Hydraulic balancing, flow measurement and control for individual circuits on the supply or return manifold bar

ADVANTAGES

- Direct visual flow control through scale printed all round on sight glass
- Required water flows are precisely, quickly, easily and continuously variably adjusted
- Sight glass legible in any position and removable at full operating pressure after shut-off (cleaning, replacement)
- No expensive auxiliary devices (measuring devices, charts, tables) required
- Setting can be locked and lead sealed (supply bar: ½" and ⅜" and return bar: ½")
- Can be shut off
- Minimal pressure loss

FUNCTIONS

- Turning the black spindle changes the aperture cross-section in the valve and, in this way, regulates the flow volume
- When fully screwed in, the flow is shut off
- Displacement principle of an impact element held in a measuring tube with a counterspring
- The position is transferred into the sight glass or on to the scale by a push rod connecting the impact element with the indicator element

TECHNICAL DATA

- k_{VS} value and measurement range: see tables opposite
- Operating temperature $T_{0\,max}$: 60 – 80°C, according to model
- Operating pressure $P_{0\,max}$: 6 bar
- Measuring accuracy ± 10 % of the final value
- External thread (G) as per ISO 228
- Installation position: Any (360°)

MATERIALS

- Nipple: Brass or plastic (supply bar: ½»)
- Measurement element: Plastic
- Internal parts: Stainless steel, brass and plastic
- Sight glass: Heat-resistant, shock-resistant plastic
- Gaskets: EPDM

FLOW MEDIA

- Water mixtures with typical corrosion and glycol additives
- Hot water
- Cooling water

TOPMETER SUPPLY/RETURN – TYPE OVERVIEW

BALANCE VALVE TOPMETER SUPPLY

$T_{0\,max}$: 70°C (60°C for plastic TopMeter), $P_{0\,max}$: 6 bar; Balance valve ⅜" and ½"

Order no.*	DN	G	k_{VS}** (m³/h)	Range (l/min)	Nipple
223.6502.xxx	15	½"	1,1	0 – 2,5	brass
223.6505.xxx	15	½"	1,1	0 – 5	brass
223.6506.xxx	15	½"	1,1	0 – 6	brass
223.6508.xxx	15	½"	1,1	0 – 8	brass
223.6605.xxx	10	⅜"	1,1	0 – 5	brass
223.6702.xxx	15	½"	1,1	0 – 2,5	plastic
223.6705.xxx	15	½"	1,1	0 – 5	plastic

BALANCE VALVE RETURN

$T_{0\,max}$: 80 °C , $P_{0\,max}$: 6 bar; Balance valve ⅜" and ½"

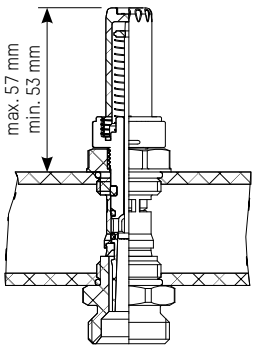
Order no.*	DN	G	k_{VS}** (m³/h)	Range (l/min)	Nipple
223.5203.xxx	15	½"	1,2	0,6 – 2,4	brass
223.5204.xxx	15	½"	1,7	1 – 4	brass
223.5208.xxx	15	½"	2,4	2 – 8	brass
223.5303.xxx	10	⅜"	0,8	0,5 – 2,5	brass
223.5304.xxx	10	⅜"	1	1 – 5	brass

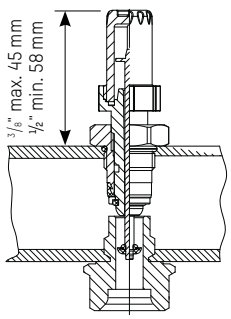
* The definitive order number is issued on the basis of the individual configuration

** k_{VS} value is dependent on the counterpart used and the manifold geometry

TOPMETER SUPPLY/RETURN – DIMENSIONED DRAWING EXAMPLE

Depending on the individual configuration of your application, the manifold (lower valve part) may have to be adapted to the TopMeter. For this purpose, we provide you with a dimensioned drawing with the required connection dimensions.





TOPMETER SUPPLY/RETURN – REPLACEMENT PARTS

Sight glasses: see technical data sheet

PRECISE, DEMAND-BASED ENERGY DISTRIBUTION

One of the main functions demanded of heating and cooling systems is to ensure the right room temperature at the right time. Additional regulating components make it possible to achieve constant heating or cooling performance as and when needed.

INDIVIDUAL USE OF BUILDINGS

Depending on the type of use of the building, room heating or cooling must be tailored to the individual needs of users. These are influenced by:

- Irregular usage or occupancy times
- Higher heating or cooling requirements at specific times of the day, for example during the day in residential buildings or at weekends in commercial premises
- Loss of heat through opening doors or draughts
- Room temperature regulation for different zones

AUTOMATION BY MEANS OF ADDITIONAL COMPONENTS

In order to provide individual temperatures as and when needed, a heating or cooling system can be automated by adding more components.

This means that the use of the system can be controlled by means of actuators on the valves in combination with room thermostats, depending on programmed times and required temperatures.

In addition, distributors fitted with actuators also allow the system to be integrated in a building automation system.

PERMANENT CONTROL

Room thermostats constantly monitor the room air temperature and compare it with the set target value. If the actual temperature drops below the target room temperature, the room thermostat sends a signal (via a connector module) to the actuator. This performs a silent lifting movement which is transmitted directly to the valve in the distributor bar, opening the heating circuit. This causes hot or cold liquid to flow into the circuit until the target temperature is reached and measured by the room thermostat. The latter sends a signal to the actuator, causing it to close the valve again.

QUICK AND EASY TO INSTALL. PERFECT TEAMWORK

The TopDrive and NovaDrive actuators use the room thermostats to open or close the valve settings in the distributor bar on the basis of the required heat. The intermediate NovaMaster connector module allows a fixed line or wireless connection to be established between the actuators and room thermostats.

THE PERFECT COMPLEMENT FOR SYSTEMS ALREADY AVAILABLE ON THE MARKET

NovaDrive actuators are available for both open when off and closed when off operating modes, while the TopDrive is available only for closed when off mode. The actuators will fit almost all commercial valves and have bayonet or click-in connections for quick and easy installation.

CAN BE RETROFITTED USING WIRELESS TECHNOLOGY

Available in both wired and wireless versions: The basic version for controlling 230 V NC actuators will cover the most common applications. Other versions allow 230 V and 24 V NO actuators to be controlled, as well as drives with auxiliary switches or proportional lifting. In addition, Taconova also supplies wireless room thermostats. The use of wireless transmission technology means that there is no need for time-consuming cable laying – a major advantage when retrofitting a system and when working in new buildings.

MAXIMIZING ENERGY SAVINGS

A pump logic module can also be added to the controller; this switches off the pump when heating is no longer needed. This saves energy and protects the pump.

PERFECT CONTROL FOR SATISFIED CUSTOMERS

The valve actuators and room thermostats from Taconova efficiently automate the distribution of energy for panel heating and cooling systems as needed. The broad product range covers every price and performance bracket and offers the perfect solution for every need.

BENEFITS AT THE PLANNING STAGE

- Security thanks to customized and proven system solutions
- Reliable compliance with design temperatures
- Flexible installation options even in retrofitting projects because the actuators match all common valve types
- Easy retrofitting with wireless room thermostats
- Combination options and a range of extendable connector modules mean that complex requirements can be met

BENEFITS AT THE INSTALLATION STAGE

- Quick and easy installation of actuators by means of bayonet fittings
- Easy functional control of the actuators thanks to tactile and visual valve position guides
- Comfort thanks to constant room temperatures
- Long service life means no maintenance required

THE GATEKEEPER

NovaDrive and TopDrive actuators are the reliable gatekeepers which open or close the valves of the individual heating circuits according to the heat requirement. They take care of the fine adjustment, are silent in operation and require no maintenance. Together with NovaStat room thermostats, they create a climate adjusted for each room. NovaDrive and TopDrive fit almost all generally available valves and, thanks to their bayonet or click connector, are quick and easy to fit.


taconova

NOVADRIVE NC/NO

DESCRIPTION

- Electro-thermal actuator in the two variants NC and NO for distribution systems and radiator valves

ADVANTAGES

- Precise bayonet coupling for easy installation
- Fits all generally available makes of valve and manifold upper parts
- Valve position can be felt and seen
- Silent
- Pluggable connecting cable
- Internal sliding contacts (no movement of cables or dry joints)
- Long service life thanks to vertical travel of at least 4 mm
- Can be used with NovaStat room thermostats

FUNCTIONS

- When the room temperature deviates from the target value, the thermostat sends a signal to the actuator
- In the actuator, an electrical resistance heats the expansion element, which passes the vertical movement to the valve
- Regulator and actuator operate according to the "OPEN/CLOSED" principle

TECHNICAL DATA

- Operating modes: Normally closed (NC), normally open (NO)
- Rated voltage (AC or DC): 24 V or 230 V
- Permissible voltage deviation: ± 10 %
- Inrush current:
  - 24V: 0.2 A for max. 1 min;
  - 230V: 0.6 A for max. 100 ms
- Recommended fuse protection: 0.35 A time delay, according to DIN 41662
- Operating efficiency 1.8 W
- Opening/Closing time: approx. 3 min.
- Rated lift: 4 mm
- Rated closing force: 90 N
- Ambient temperature: 0 – 50 °C
- Connecting cable length: 1 m
- Protection type: IP 40
- Protection class: II
- CE conformance

MATERIALS

- Housing and internal parts: Heat and impact resistant plastics
- Spring: Stainless steel
- Contacts: Silver plated
- Cables: PVC

APPLICATIONS

- For manifold systems and radiator valves

NOVADRIVE NC – TYPE OVERVIEW

ELECTRO-THERMAL ACTUATOR, FUNCTION NC (NORMALLY CLOSED)

230 V version Order no.	24 V version Order no.	to fit valve/ manifold from	Fixture
257.2854.000	257.1854.000	Beulco (old version up to approx. March 05)	M30 x 1
257.2855.000	257.1855.000	*	M30 x 1,5
257.2858.000	257.1858.000	Herz	M28 x 1,5
257.2862.000	257.1862.000	MNG/Cazzaniga/SBK/ Empur-Edelstahl/SKV-Ventil frontal	M30 x 1.5
257.2864.000	257.1864.000	Giacomini	Adapter
257.2880.000	257.1880.000	Viega	M30 x 1,5

* TacoSys/Heimeier/Strawa/Empur Messing/Oventrop/Delphistherm/Emmeti/ Schlosser/Beulco/AC-FIX/Stramax/Roth

NOVADRIVE NO – TYPE OVERVIEW

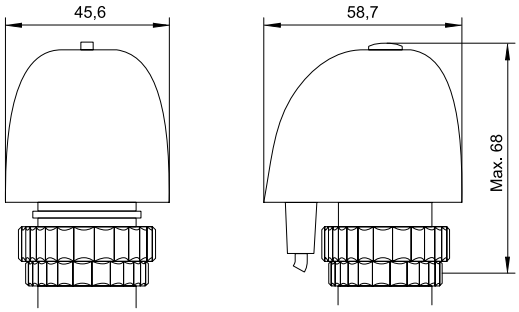
ELECTRO-THERMAL ACTUATOR, FUNCTIONS NO (NORMALLY OPEN)

230 V version Order no.	24 V version Order no.	to fit valve/ manifold from	Fixture
257.2554.000	257.1554.000	Beulco (old version up to approx. March 05)	M30 x 1
257.2555.000	257.1555.000	*	M30 x 1,5
257.2558.000	257.1558.000	Herz	M28 x 1,5
257.2562.000	257.1562.000	MNG/Cazzaniga/SBK/ Empur-Edelstahl/SKV-Ventil frontal	M30 x 1,5
257.2564.000	257.1564.000	Giacomini	Adapter
257.2580.000	257.1580.000	Viega	M30 x 1,5

* TacoSys/Heimeier/Strawa/Empur Messing/Oventrop/Delphistherm/Emmeti/ Schlosser/Beulco/AC-FIX/Stramax/Roth

Further versions and advice on valve matching on request

NOVADRIVE NC/NO – DIMENSIONS



TOPDRIVE NC

DESCRIPTION

- Electro-thermal actuator for manifold systems and radiator valves

ADVANTAGES

- Precise bayonet coupling for easy installation
- Fits all generally available makes of valve and manifold upper parts
- Inverted installation (360°) possible
- Protection against leaking valves through moulded gasket
- Valve position visible
- Silent
- Long service life thanks to vertical travel of at least 4 mm
- Can be used with NovaStat room thermostats

FUNCTIONS

- When the room temperature deviates from the target value, the thermostat sends a signal to the actuator
- In the actuator, an electrical resistance heats the expansion element, which passes the vertical movement to the valve
- Regulator and actuator operate according to the "OPEN/CLOSED" principle
- Variable rhythmical opening and closing according to heat output requirement produces constant regulation behaviour

TECHNICAL DATA

- Operating mode: Normally closed (NC)
- Rated voltage (AC or DC): 24 V or 230 V
- Permissible voltage deviation: ± 1 %
- Inrush current:
  24V: 0.2 A for max. 1 min;
  230V: 0.6 A for max. 100 ms)
- Recommended fuse protection:
  0.35 A time delay, according to DIN 41662
- Operating efficiency 1.8 W
- Opening time: approx. 3 min.
- Closing time: approx. 3 min.
- Rated lift: 4 mm
- Rated closing force: 100 N
- Ambient temperature: 0 – 60 °C
- Connecting cable length: 1 m
- Connecting cable VDE approved
- Protection type: Actuator IP44 /Electrical components IP44
- Protection class II
- CE conformance

MATERIALS

- Housing and internal parts: Heat and impact resistant plastics
- Spring: Stainless steel
- Cables: PVC

APPLICATIONS

- For manifold systems and radiator valves

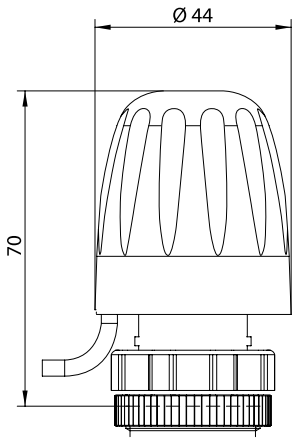
TOPDRIVE NC – TYPE OVERVIEW

ELECTRO-THERMAL ACTUATOR, FUNCTION NC (NORMALLY CLOSED)

230 V version Order no.	24 V version Order no.	to fit valve/ manifold from	Fixture
257.2055.000	257.1055.000	TacoSys/Heimeier/ Strawa/Empur Messing/Oventrop/Delphistherm/Emmeti/ Schlosser/Beulco/ AC-FIX/Stramax/Roth	M30 x 1,5
257.2058.000	257.1058.000	Herz (RV 57)	M28 x 1,5
257.2062.000	257.1062.000	MNG/Cazzaniga/SBK/ Empur-Edelstahl/SKV-Ventil frontal	M30 x 1,5
257.2064.000	257.1064.000	Giacomini	Adapter
257.2080.000	257.1080.000	Viega	M30 x 1,5

Further versions and advice on valve matching on request

TOPDRIVE NC – DIMENSIONS



NOVADRIVE SWITCH

DESCRIPTION

- Electro-thermal actuator with auxiliary switch for manifold systems and radiator valves

ADVANTAGES

- Click connector for easy installation
- Fits Heimeier-compatible and Herz valves (other valves on request)
- Auxiliary switch for control of an external device, e.g. circulation pump, or as a control impulse for a central regulation device
- Valve position visible in watertight inspection window
- Compact construction
- Silent
- Wear-free
- Can be used with NovaStat room thermostats

FUNCTIONS

- When the room temperature deviates from the target value, the thermostat sends a signal to the actuator
- In the actuator, an electrical resistance heats the expansion element, which passes the vertical movement to the valve
- Regulator and actuator operate according to the "OPEN/CLOSED" principle
- Variable rhythmical opening and closing according to heat output requirement produces constant regulation behaviour
- Auxiliary switch for control of a pump or as control impulse for a central regulator device
- When the valve is fully open, the auxiliary switch makes the contact

TECHNICAL DATA

- Operating mode: Normally closed (NC)
- Lift: 3.5 mm
- Opening/Closing time: approx. 3 min.
- Operating temperature -5 – 45 °C
- Operating voltage: 24 V or 230 V
- Switching capacity of the auxiliary switch: 1 A or 0.5 A

Version	**230 V**	**24 V**
▪ Inrush current, short-term:	320 mA	270 mA
▪ Continuous current capacity:	7 mA/2 W	70 mA/2 W
▪ Ambient temperature:	max. 45 °C	max. 45 °C
▪ Auxiliary switch [switching capacity]	0,5 A/250 V AC	1 A/24 V AC/DC

- Connecting cable length: 0.6 m
- Protection type: IP44,
- Protection class: II
- CE conformance

MATERIALS

- Housing and internal parts: Heat and impact resistant plastics
- Spring: Stainless steel
- Cables: PVC

APPLICATIONS

- For manifold systems and radiator valves

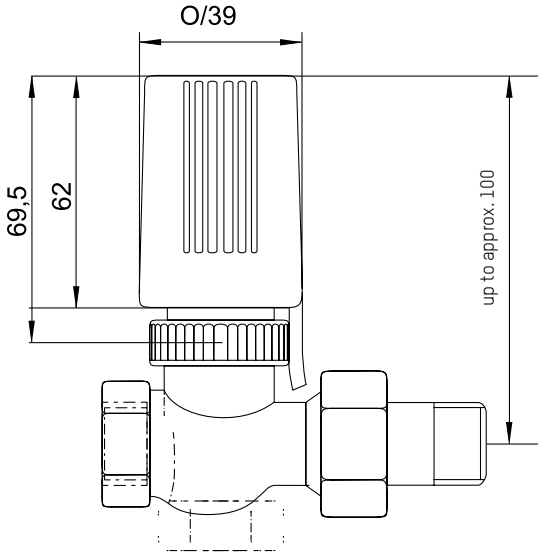
NOVADRIVE SWITCH – TYPE OVERVIEW

ELECTRO-THERMAL ACTUATOR, FUNCTION NC (NORMALLY CLOSED)

230 V version Order no.	24 V version Order no.	to fit valve/ manifold from	Fixture
257.2255.500	257.1255.500	TacoSys/Heimeier/ Strawa/Empur Messing/Oventrop/Delphistherm/Emmeti/ Schlosser/Beulco/ AC-FIX/Stramax/Roth	M30 x 1,5
257.2258.500	–	Herz	M28 x 1,5

Further versions and advice on valve matching on request

NOVADRIVE SWITCH – DIMENSIONS



THE CONTROL CENTRE

The NovaStat room thermostats are the masterminds of distribution technology. They control the NovaDrive and TopDrive actuators as required. In this way, room temperatures can be individually adjusted and heating costs can be saved. Reduction of the room temperature by only 1 °C means a reduction of heating costs by about 6 %. The wide product range, designed with price and performance in mind, offers a solution for every need. Together with the expandable NovaMaster connecting modules, the room thermostats can also master complex requirements. Both NovaStat and NovaMaster are available as cable and radio versions.


Auto
P
22.8°C
OK / i

NOVASTAT EL

FUNCTIONS

- Room temperature regulation takes place with NTC temperature sensors connected to a PI or difference regulator which compares the temperature measured with the set target value
- Any deviation from the target value causes the actuator to pass a corresponding lift movement to the valve
- Overshooting of the room temperature is prevented
- Regulation takes place according to the "Open/Closed" principle
- Silent TRIAC element realises the switching process

MATERIALS

- Housing: ABS (UV-resistant)

APPLICATIONS

- Mainly used in new construction and as a replacement part

DESCRIPTION

- Electronic room thermostat for the control of actuators

ADVANTAGES

- Simple operation
- Product range graduated according to price/performance
- Digital versions with programming
- Easy wiring to NovaMaster connecting modules
- LED function control
- Silent
- Wear-free
- Energy-saving
- Available for NC or NO actuators

NOVASTAT EL – TYPE OVERVIEW

NOVASTAT EL BASIC

Electronic room thermostat for actuators normally closed (NC); Protection class II, IP 30

Order no.	Operating voltage	Regulation range	Switch output
206.1650.000	230 V AC 50 Hz	5 – 30 °C	TRIAC 230 V AC, NC max. 75 W

NOVASTAT EL QUATTRO

Electronic room thermostat for actuators normally closed (NC) and normally open (NO); Protection class II, IP 30

Order no.	Operating voltage	Regulation range	Switch output
206.1651.000	230 V AC 50 Hz and 24 V AC	5 – 30 °C	TRIAC 24 V AC/ 230 V AC, NC/NO max. 75 W

NOVASTAT EL INWALL

Electronic in-wall room thermostat for actuators normally closed (NC); Protection class II, IP 21

Order no.	Operating voltage	Regulation range	Switch output
206.1654.000	230 V AC 50 Hz	5 – 35 °C	Relay 230 V AC, max. 16 A

NOVASTAT EL DIGITAL

Electronic room thermostat for actuators normally closed (NC) and normally open (NO); Digital display, Operating mode switch for normal or reduced operation Protection class II, IP 30

Order no.	Operating voltage	Regulation range	Switch output
206.1652.000	230 V AC 50 Hz	5 – 37 °C in steps of 0,5	TRIAC 230 V AC, NC/NO max. 75 W

NOVASTAT EL WEEK

Electronic room thermostat for actuators normally closed (NC) and normally open (NO); Digital display with weekly or daily programme, automatic or manual operation; Protection class II, IP 30

Order no.	Operating voltage	Regulation range	Switch output
206.1653.000	Batteries 3 x 1,5 V (LR6) AA	5 – 35 °C Frost protection 0,5 – 10 °C	Relay potential-free NC, NO max. 8 A

NOVASTAT EL PUBLIC

Electronic room thermostat for actuators normally closed (NC), for public buildings; Protection class II, IP 30

Order no.	Operating voltage	Regulation range	Switch output
206.1648.500*	24 VAC 50 Hz	5 – 30 °C	TRIAC 230 V AC, NC max. 75 W
206.1649.500*	230 V AC 50 Hz	5 – 30 °C	TRIAC 230 V AC, NC max. 75 W

* on request

NOVASTAT EL – ACCESSORIES

EXTERNAL FLOOR SENSOR, NTC 10 K

Order no.	Length	Suitable for
296.7018.000	3 m	206.1652.000, 206.1654.000

NOVASTAT EL – DIMENSIONS AND COLOURS

Version	Order no.	H (mm)	W (mm)	D (mm)	Colour
Basic	206.1650.000	80	80	31	RAL 9010
Quattro	206.1651.000	80	80	31	RAL 9010
Inwall	206.1654.000	65	65	23	RAL 9010
Digital	206.1652.000	80	80	31	RAL 9010
Week	206.1653.000	86	125	32	RAL 9010
Public	206.1648.500	80	80	31	RAL 9010
Public	206.1649.500	80	80	31	RAL 9010

NOVAMASTER EL

DESCRIPTION

- Connecting module for the connection of electro-thermal actuators to room thermostats

ADVANTAGES

- Module design: Connecting modules can be plugged together
- NovaMaster EL Timer permits the programming of two time groups
- Module available with pump logic
- Control of 24 V actuators by the NovaMaster EL Basic possible using transformer
- Unambiguous connection of thermostats and actuators
- Direct wall installation or installation on DIN rail
- LED function control
- Silent
- Wear-free
- Energy-saving

FUNCTIONS

- See installation instructions

MATERIALS

- Housing: ABS-PC

APPLICATIONS

- Wiring and control of actuators and room thermostats near the manifold

NOVAMASTER EL – TYPE OVERVIEW

NOVAMASTER EL BASIC

Connecting module for six room thermostats and 24 actuators normally closed (NC) or normally open (NO), with LED function control; Expandable with NovaMaster EL Slave Box; Control of 24 V actuators through optionally available transformer; Protection class II, IP 30

Order no.	Model	Number of zones
258.9310.000	230 V AC 50 Hz/24 V AC with trafo	6 (max. 4 act./zone)

NOVAMASTER EL LOGIC

Connecting module for six room thermostats and 24 actuators normally closed (NC) or normally open (NO), with integrated pump logic; Can be combined with Nova-Master EL Timer; Protection class II, IP 30

Order no.	Model	Number of zones
258.9311.000	230 V AC 50 Hz	6 (max. 4 act./zone)

NOVAMASTER EL SLAVEBOX

Expansion module for four zones, connectible to NovaMaster EL Basic and Logic For four additional room thermostats and their actuators normally closed (NC) or normally open (NO); Control of 24 V actuators through optionally available transformer; Protection class II, IP 30

Order no.	Model	Number of zones
258.9313.000	230 V AC 50 Hz with LEDs, 24 V AC with transformer	4 (max. 4 act./zone)

NOVAMASTER EL TIMER

For direct connection to NovaMaster EL Logic; Weekly programme with option of division into two time zones; Normally closed (NC) or normally open (NO);
Operating modes: Automatic, Comfort, Reduction
Protection class II, IP 30

Order no.	Model	Number of zones
258.9315.000	230 V AC 50 Hz	12 zones controllable

NOVAMASTER EL – ACCESSORIES

TRANSFORMER

For NovaMaster EL Basic and NovaMaster EL Slave Box; For operation of 24 V actuators; Protection class II, IP 30

Order no.	Output voltage	Operating voltage
258.9316.500	24 V AC max. 60 W	230 V AC 50 Hz

NOVAMASTER EL – DIMENSIONS AND COLOURS

Version	Order no.	H (mm)	W (mm)	D (mm)	Colour
Basic	258.9310.000	88	225	58	RAL 9010
Logic	258.9311.000	88	225	58	RAL 9010
SlaveBox	258.9313.000	88	160	58	RAL 9010
Timer	258.9315.000	88	160	62	RAL 9010
Transformer	258.9316.500	83	110	61	RAL 9010

CERTIFIED QUALITY

PRODUCT QUALITY AND CUSTOMER SATISFACTION ARE OUR PRIMARY CONCERN.
WE THEREFORE CONTINUOUSLY OPTIMIZE OUR BUSINESS PROCESSES AND PRODUCTION WORKFLOWS.

NOVASTAT RF

DESCRIPTION

- Radio room thermostat for the control of actuators

ADVANTAGES

- Simple operation
- Product range graduated according to price/performance
- Digital versions with programming
- Easy wiring to NovaMaster connecting modules
- LED function control
- Silent
- Wear-free
- Energy-saving
- Available for NC or NO actuators
- Simple radio connection with connecting module NovaMaster RF Logic or Mini
- Possibility for individual programming of a zone (or more in parallel) indivudually
- Optimum positioning in the room
- Signal encryption for each room thermostat for clear assignment
- Reduced installation time thanks to radio connection
- The somewhat higher price is made up for by the saving of installation time

FUNCTIONS

- Room temperature regulation takes place with NTC temperature sensors connected to a PI or difference regulator which compares the temperature measured with the set target value
- Any deviation from the target value causes the actuator to pass a corresponding lift movement to the valve
- Overshooting of the room temperature is prevented
- Regulation takes place according to the "Open/Closed" principle
- Silent TRIAC element realises the switching process

MATERIALS

- Housing: ABS (UV-resistant)

APPLICATIONS

- Mainly used in renovations, but also in new construction

NOVASTAT RF – TYPE OVERVIEW

NOVASTAT RF BASIC

Electronic room thermostat for radio controlled transmission (868 MHz) for actuators normally closed (NC) or normally open (NO), < 10 mW; Protection class II; IP 30

Order no.	Operating voltage	Control range
206.1656.000	Batteries, 2 x 3 V (CR 2430)	5 – 30 °C

NOVASTAT RF DIGITAL

Electronic room thermostat for radio controlled transmission (868 MHz) for actuators normally closed (NC) or normally open (NO), < 10 mW; Switch for normal or reduced operation; Protection class II, IP 30

Order no.	Operating voltage	Control range
206.1657.000	Batteries, 2 x 3 V (CR 2430)	5 – 37 °C

NOVASTAT RF WEEK

Electronic room thermostat for radio controlled transmission (868 MHz) for actuators normally closed (NC) or normally open (NO), < 10 mW Digital display with weekly or daily programme; Switch for normal and reduced or automatic operation; Protection class II, IP 30

Order no.	Operating voltage	Control range
206.1658.000	Batteries 3 x, 1.5 V (LR6) AA	5 – 35 °C

NOVASTAT RF – DIMENSIONS AND COLOURS

Version	Order no.	H (mm)	W (mm)	D (mm)	Colour
Basic	206.1656.000	80	80	31	RAL 9010
Digital	206.1657.000	80	80	31	RAL 9010
Week	206.1658.000	86	125	32	RAL 9010

NOVAMASTER RF

DESCRIPTION

- Connecting module for radio connection with room thermostats
- Electrical connection of actuators

ADVANTAGES

- Module design: Connecting modules can be plugged together
- NovaMaster EL Timer permits the programming of two time groups
- Module available with pump logic
- Control of 24 V actuators by the NovaMaster EL Basic possible using transformer
- Unambiguous connection of thermostats and actuators
- Direct wall installation or installation on DIN rail
- LED function control
- Silent
- Wear-free
- Energy-saving
- NovaMaster RF Logic for the individual programming of separate zones
- Module always with pump logic

FUNCTIONS

- See installation instructions

MATERIALS

- Housing: ABS-PC

APPLICATIONS

- Orderly wiring of actuators near the manifold
- Reception of radio signals from room thermostats

NOVAMASTER RF – TYPE OVERVIEW

NOVAMASTER RF LOGIC

Connecting module for six room thermostats and 24 actuators normally closed (NC) or normally open (NO), Radio version (868 MHz), < 10 mW; programmable timer function for nine fixed and twelve user-defined programmes, intelligent temperature control system, active antenna and receiver; Expandable with NovaMaster RF SlaveBox; Protection class II, IP 30

Order no.	Version	Number of zones	Switch outputs
258.9317.000	230 V AC 50 Hz ± 10 % integrated Pump logic	6 (max. 4 actuators / zone)	2 x separate potential-free Pump circuit max. 8 A

NOVAMASTER RF SLAVEBOX

Expansion module for four zones, connectible to NovaMaster RF Logic
For four additional room thermostats and their actuators normally closed (NC) or normally open (NO), radio version (868 MHz), <10 mW Protection class II, IP 30

Order no.	Version	Number of zones
258.9319.000	230 V AC 50 Hz, with LEDs	4 (max. 4 actuators/zone)

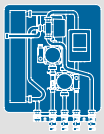
NOVAMASTER RF MINI

For actuators normally closed (NC), single channel receiver (868 MHz), two actuators can be directly connected in parallel; For the room thermostats NovaStat RF Basic, NovaStat RF Digital and NovaStat RF Week; Protection class II, IP 30

Order no.	Model	Switch output
206.1659.000	Receiver 230 V	Receiver Relay 12 A, 250 V AC max.

NOVAMASTER RF – DIMENSIONS AND COLOURS

Version	Order no.	H (mm)	W (mm)	D (mm)	Colour
Logic	258.9317.000	88	370	58	RAL 9010
SlaveBox	258.9319.000	88	160	58	RAL 9010
Mini	206.1659.000	170	28	14	RAL 9010



SYSTEM SOLUTIONS

The demand for universal solutions in building services is greater than ever. The ready-to-connect solar energy and fresh water stations from Taconova are highly evolved systems employing state-of-the-art technology. Taconova quality products are assembled from carefully selected, tried-and-tested products to create perfectly functioning standard units. These ready-to-use universal solutions simplify and speed up planning and installation. In everyday use they guarantee uncomplicated, reliable operation and reduce maintenance and energy consumption to a minimum.

Taconova adheres to the system concept: the fresh water and solar energy stations can be optimally combined. The solar energy stations are at the heart of every solar heating energy system and set new standards for storage loading and energy-saving hot water preparation. The modern fresh water stations heat the water only when required, thereby avoiding the energy and hygiene-related problems associated with the storage of domestic hot water.

INTELLIGENT STATIONS

Taconova's sophisticated solar energy and fresh water stations are equipped with all the necessary valves and safety features and meet all the requirements of modern machine engineering.

Solar energy stations

Ready-to-install fully assembled pump groups for direct installation in solar power systems and their solar circuits.

- TacoSol Circ ER
- TacoSol Circ ZR
- TacoSol Circ ZR PV EU21

Storage loading stations

Solar station and loading module in one unit Ready-to-install storage loading station with integrated decoupling for loading one or two stratified storage tanks by means of a solar thermal energy system.

- TacoSol Load 25
- TacoSol Load 240

Fresh water stations

Ready-to-install freshwater stations for needs-based hot water heating using the cyclical principle. The required primary energy is obtained directly from the heating system or storage tank.

- TacoTherm Fresh 15
- TacoTherm Fresh 40
- TacoTherm Fresh 120

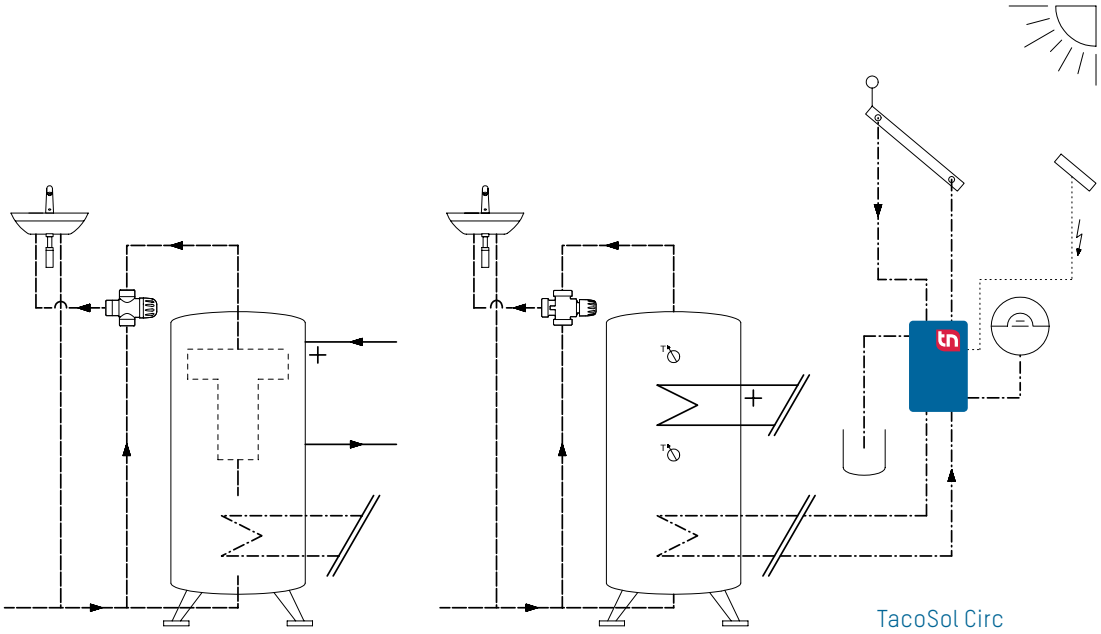
APPLICATIONS/BUILDING CATEGORIES

		Apartments, apartement blocks	Single dwelling units, housing estates	Multiple dwelling units	Residential care facilities and hospitals	Administration and service buildings	Hotels, restaurants, industrial kitchens	Schools, gymnasiums, sports facilities	Industrial buildings and systems	Facilities with partial use such as barracks, camping etc.
TacoSol	Circ									
TacoSol	Load									
TacoTherm	Fresh									

THREE INNOVATIONS

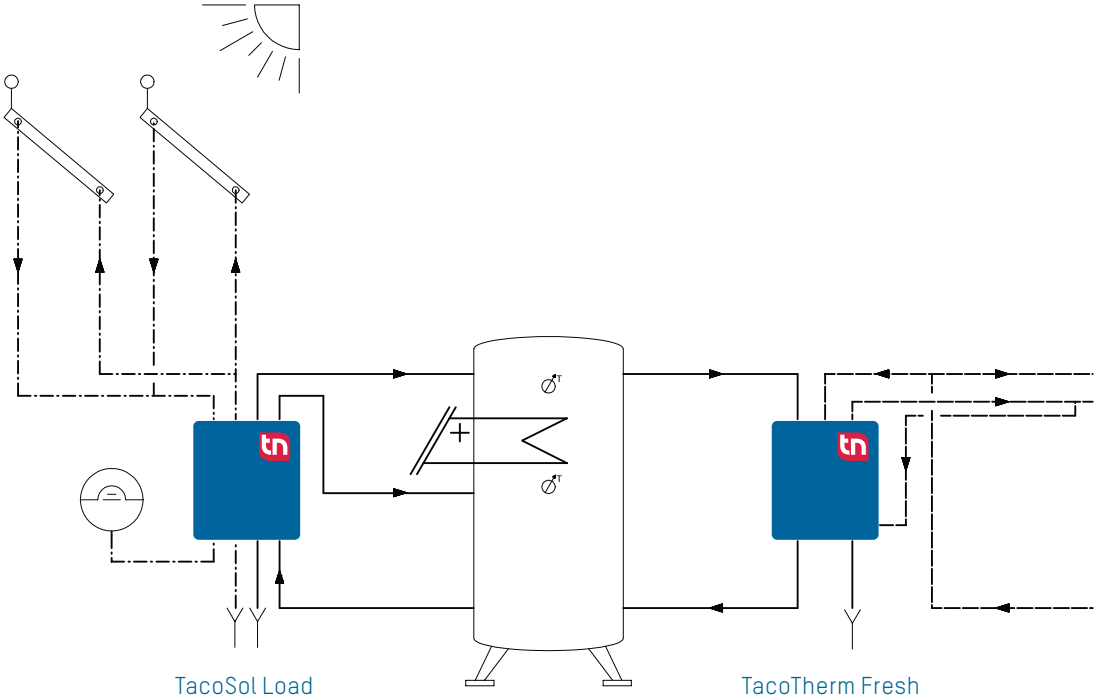
Taconova has taken a conscious decision to invest in research and development for its innovative system technology solutions. The latest examples – the storage unit loading station TacoSol Load 240 and the fresh water stations TacoTherm Fresh – unite high performance and extraordinary regulatory precision, even for the lowest tap flow levels.

USE OF THE TACONOVA SOLAR STATIONS IN HEATING SYSTEMS



TacoSol Circ

USING THE TACONOVA FRESH WATER AND STORAGE LOADING STATION IN HEATING SYSTEMS



TacoSol Load

TacoTherm Fresh

Expansion vessel

Temperature indication

Temperature sensor

EFFICIENT AND SAFE USE OF REGENERATIVE ENERGIES

Safety and efficiency are the key criteria when installing and operating solar thermal energy systems.

EFFICIENT OPERATION OF THE SOLAR THERMAL SYSTEM

When used in conjunction with conventional heating systems, regenerative energy systems secure the thermal energy requirements of buildings. Special requirements apply when integrating solar thermal systems. In addition to intrinsically safe operation, the efficient transfer of solar heat from the collector to the thermal storage station is an important criterion.

The efficient operation of the solar thermal system largely depends on the system being correctly ventilated and the performance-specific adjustment of volume flow.

INTRINSIC SAFETY OF SOLAR THERMAL SYSTEMS

Solar stations link the collector circuit to the solar storage tank. The most important functions are pumping, regulating and ventilating in order to ensure safe and efficient operation of the system under all operating conditions.

Thus, the function of a solar station is not just to circulate the solar fluid, but also:

- Demand-driven volume flow regulation
- to protect against circulatory malfunctions
- to protect the components from overpressure
- to monitor the temperature
- to separate the air

In addition, the solar station makes it easier to perform maintenance tasks when filling and emptying the various circuits by means of the integral multifunctional valves.

PROTECTION AGAINST STEAM AND CAVITATION

One of the design features of the TacoSol Circ solar station is the connection for the solar expansion vessel on the intake side in front of the pump. This prevents a negative operating pressure (underpressure) from building up in front of the pump, thus ensuring that the expansion vessel and circulating pump are protected from cavitation.

AUTOMATIC AIR SEPARATION

It is necessary to ventilate the solar circuit after it is first filled and during ongoing operation. Air pockets impair the operation of the system, reduce solar yield and also cause the solar fluid to age prematurely.

The TacoSol Circ solar station has an integrated ventilating flask with built-in manometer, the innovative design of which ensures automatic air separation both when filling the system and during ongoing operation. This makes it possible to ventilate and check the pressure of the solar circuit directly at the station. This saves time when commissioning and maintaining the solar station.

VALVE AND PUMP GROUP FOR THE INTRINSICALLY SAFE OPERATION OF SOLAR STATIONS

As a compact, preassembled valve group, the TacoSol Circ solar station brings together the most important regulating and safety components, such as circulating pump, safety valve, non-return valve, flow rate control, ventilating flask, manometer and thermometer.

THE SUN EVEN POWERS THE PUMP

When connected to a photovoltaic panel, the TacoSol Circ PV EU21 also uses the solar energy to power the circulating pump. The intensity of the incident sunlight regulates the rotational speed directly by means of the solar-generated pump current, thereby also controlling the performance of the pump. This makes it possible to operate the solar thermal energy system completely independently, so that there is no need for a mains power connection.

In addition, the optional DC-Control pump controller can be used to increase the efficiency of the system.

SAFE USE OF SOLAR ENERGY

The pre-assembled, pre-configured components in the solar stations make it easier to plan, install and efficiently operate the solar thermal energy system.

BENEFITS AT THE PLANNING STAGE

- Certainty during planning and dimensioning thanks to pre-assembled main components
- Efficient planning thanks to hydraulic pre-dimensioning and station configuration
- Costs can be kept under control during planning thanks to preconfigured stations and clear component specification
- The compact design makes planning easier
- Enables the planner to position himself as an innovator

BENEFITS AT THE INSTALLATION STAGE

- Less time required to install, commission and maintain the system
- Increased sales and higher profits
- Service and guarantee from a single source
- Reliable operation thanks to high quality components
- Compact design means that less space is required for installation
- Easy to provide evidence of energy yield
- Satisfied customers
- Enables the fitter to position himself as an innovator

THE INDEPENDENT SOLUTION

The TacoSol Circ solar stations are supplied ready-to-be-connected and can be fitted by a single installer. Hydraulic balancing and flow measurement can be carried out directly on the solar station in all versions. The dual-phase versions increase their effectiveness through the automatic air separation in the integrated ventilating flask. Version ZR PV EU21 in conjunction with the photovoltaic panel EU21 has its own independent energy supply.


WILO
-20
0
20
40
60
80
100
120
140
160
°C

TACOSOL CIRC ER

DESCRIPTION

- Connection-ready single line solar station with integrated TacoSetter Inline 130 balancing valve
- Available with optional safety subassembly

ADVANTAGES

- Functional check and hydraulic balancing without measurement devices, diagrams or tables, thanks to TacoSetter Inline 130 with accuracy of reading owing to glycol-calibrated reading scale
- Multifunctional ball valve makes it much easier to fill and drain the system
- Integrated backflow preventer prevents incorrect circulation
- Pump can be changed with ease (lockable on the intake and output sides)
- Safe and low-maintenance

FUNCTIONS

- In combination with a solar controller, the solar liquid heated in the collector is transported to the hot water/ drinking water storage tank via a heat exchanger with the help of the solar station
- The integrated 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 with return spring
- The flow meter is integrated in the pump group
- The regulating screw on the flow meter is used to adjust the flow. The index mark is the lower edge of the float element

EQUIPMENT

- TacoSetter Inline 130 integrated balancing valve with direct display of the set flow rate in l/min; display already calibrated for medium viscosity of 2.3 mm^2/s
- Shutoff valve with integrated metal backflow preventer
- Available with optional safety subassembly
- Circulating pumps: see overview of types
- Solar thermometer with 0 - 160 °C display range; installed in the safety pipe
- Mounting material

TECHNICAL DATA

- Operating temperature $T_{0\,max}$: 110 °C
- Operating pressure $P_{0\,max}$: 8 bar
- Actuating pressure of the safety valve: 6 bar
- Thread according to DIN 2999/ISO 7 and ISO 228
- Measuring precision of TacoSetter Inline 130: ± 10% (of the final value)
- k_{VS} value and measuring range: see data sheet

MATERIALS

- Valve housing: brass
- Internal parts: stainless steel, brass, plastic
- Window: borosilicate
- O-ring seals: EPDM
- Flat seals: suitable for use in solar energy systems and resistant to high temperatures
- Carrier/hood: EPP

FLOW MEDIA

- Heating water (VDI 2035; SIA Directive 384/1; ÖNORM H 5195–1)
- Water mixtures with typical corrosion and glycol additives
- Cooling water

TACOSOL CIRC ER – OVERVIEW OF MODELS

SOLAR STATION RETURN (MONO-PHASE)

Complete with TacoSetter Inline 130, pump, insulation
Operating temperature return flow: 110 °C, $P_{0\,max}$: 8 bar

Order no.	DN	G	k_{VS} [1]	Range [2] (l/min)	Circulating pump
270.1006.000	20	1" flat	1,5	1,5 – 6	WILO ST 20/6-3
270.1016.000	20	1" flat	3,3	4 – 16	WILO ST 20/6-3
270.1028.000	20	1" flat	3,5	8 – 28	WILO ST 20/6-3

SOLAR STATION RETURN (MONO-PHASE) – VERSION WITH HIGH EFFICIENCY PUMP

Complete with TacoSetter Inline 130, high efficiency pump, insulation
Operating temperature return flow: 110 °C, $P_{0\,max}$: 8 bar

Order no.	DN	G	k_{VS} [1]	Range [2] (l/min)	Circulating pump
270.8006.000	20	1" flat	1,5	1,5 – 6	GF PM 15-85
270.8016.000	20	1" flat	3,3	4 – 16	GF PM 15-85
270.8028.000	20	1" flat	3,5	8 – 28	GF PM 15-85

SOLAR STATION RETURN (MONO-PHASE), WITH SAFETY SUBASSEMBLY

Complete with TacoSetter Inline 130, pump, insulation, manometer (display range 0 - 10 bar), safety valve, fill and drain cock;
Operating temperature return flow: 110 °C, $P_{0\,max}$: 8 bar

Order no.	DN	G	k_{VS} [1]	Range [2] (l/min)	Circulating pump
270.1006.345	20	1" flat	1,5	1,5 – 6	WILO ST 20/6-3
270.1016.345	20	1" flat	3,3	4 – 16	WILO ST 20/6-3
270.1028.345	20	1" flat	3,5	8 – 28	WILO ST 20/6-3

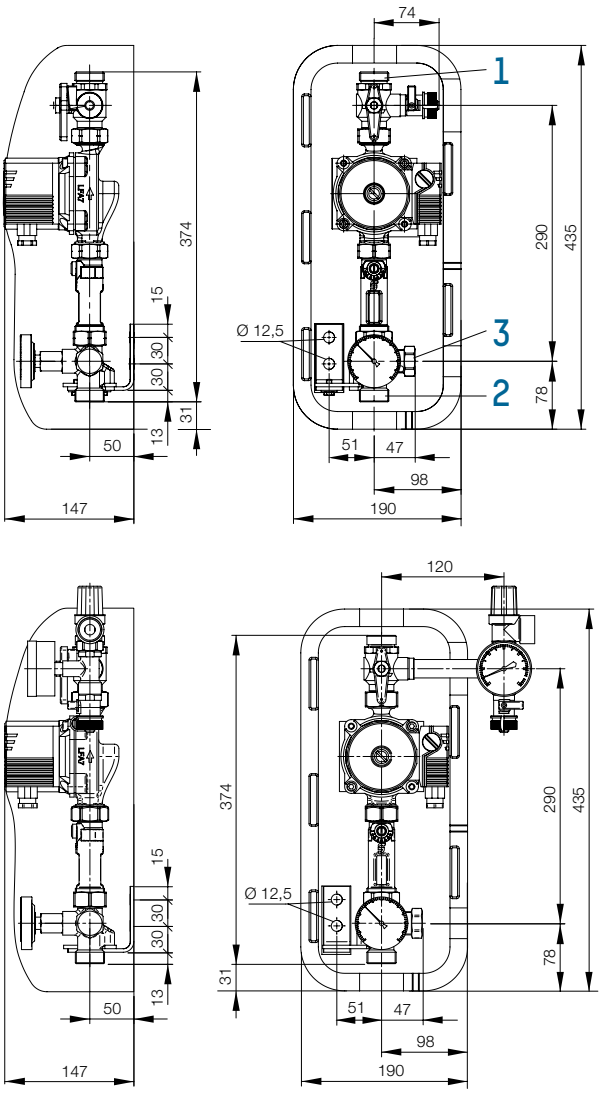
SOLAR STATION RETURN (MONO-PHASE), WITH SAFETY SUBASSEMBLY – VERSION WITH HIGH EFFICIENCY PUMP

Complete with TacoSetter Inline 130, high efficiency pump, insulation, manometer (display range 0 - 10 bar), safety valve,fill and drain cock;
Operating temperature return flow: 110 °C, $P_{0\,max}$: 8 bar

Order no.	DN	G	k_{VS} [1]	Range [2] (l/min)	Circulating pump
270.8006.345	20	1" flat	1,5	1,5 – 6	GF PM 15-85
270.8016.345	20	1" flat	3,3	4 – 16	GF PM 15-85
270.8028.345	20	1" flat	3,5	8 – 28	GF PM 15-85

[1] k_{VS} [m^3/h] at υ = 1 mm^2/s
[2] Reading scale for water-glycol mix with a viscosity of υ = 2,3 mm^2/s

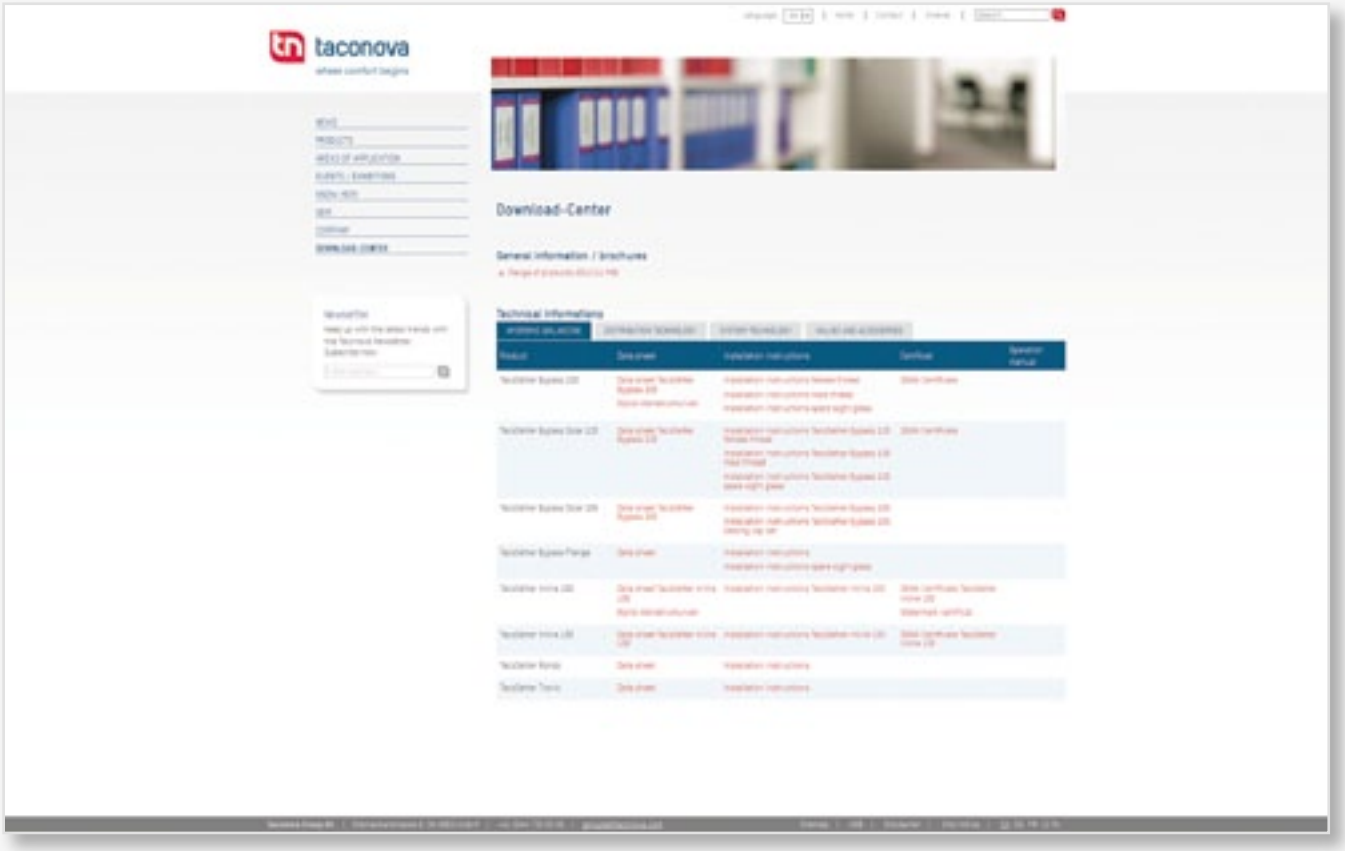
TACOSOL CIRC ER – DIMENSIONS



1 Outer thread ISO 228, G 1" (line to collector)
2 Outer thread ISO 228, G 1" (line from storage unit)
3 Outer thread ISO 228, G ¾" (expansion vessel line)

DOWNLOAD CENTER

YOU WILL FIND ADDITIONAL PRODUCT AND TECHNICAL INFORMATION
IN OUR DOWNLOAD CENTER ON TACONOVA.COM.



TACOSOL CIRC ZR

DESCRIPTION

- Connection-ready two-line solar station with integrated TacoSetter Inline 130 balancing valve, safety group and ventilating unit

ADVANTAGES

- Functional check and hydraulic balancing without measurement devices, diagrams or tables, thanks to TacoSetter Inline 130 with accuracy of reading owing to glycol-calibrated reading scale
- Permanent automatic ventilation
- The system is much easier to fill and drain thanks to a multifunctional ball valve
- Integrated backflow preventer prevents incorrect circulation
- Pump can be changed with ease (lockable on the intake and output sides)
- Solar cycle can be divided into two half-circuits

FUNCTIONS

- In combination with a solar controller, the solar liquid heated in the collector is transported to the hot water/drinking water storage tank via a heat exchanger with the help of the solar station
- The integrated 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 with return spring
- The flow meter is integrated in the pump group
- The regulating screw on the flow meter is used to adjust the flow. The index mark is the lower edge of the float element

EQUIPMENT

- TacoSetter Inline 130 integrated balancing valve with direct display of the set flow rate in l/min; display already calibrated for medium viscosity of 2.3 mm^2/s
- Shutoff valve with safety valve and metal backflow preventer in the flow and return line
- Circulating pumps: see overview of types
- Ventilation flask: black steel, stove enameled
- Solar thermometer with a display range from 0 - 160 °C in the flow and return; installed in the protective pipe
- Manometer
- Mounting material

TECHNICAL DATA

- Operating temperature $T_{0\,max}$:
  - Flow line (ventilator side): 160 °C
  - Return line (pump side): 110 °C
- Operating pressure $P_{0\,max}$: 8 bar
- Actuating pressure of the safety valve: 6 bar (alternatively 8 bar)
- Thread according to DIN 2999/ISO 7 and ISO 228
- Measuring precision of TacoSetter Inline 130: ± 10% (of the final value)
- k_{VS} value and measuring range: see next page

MATERIALS

- Ventilation flask: black steel, stove enameled
- Valve housing: brass
- Internal parts: stainless steel, brass, plastic
- Window: borosilicate
- O-ring seals: EPDM
- Flat seals: suitable for use in solar energy systems and resistant to high temperatures
- Carrier/hood: EPP

FLOW MEDIA

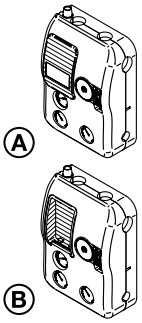
- See TacoSol Circ ER

TACOSOL CIRC ZR – OVERVIEW OF MODELS

SOLAR STATION WITH FLOW AND RETURN (TWO LINES), VERSION WITH COVER PLATE

Complete with TacoSetter Inline 130, pump, insulation and safety group;
$T_{B\ max}$ flow line: 160 °C / return line: 110 °C; $P_{0\ max}$: 8 bar, actuating pressure of safety valve 6 bar

Order no.	DN	G	k_{VS}[1]	k_{VS}[2]	Range (l/min)[3]	Circulating pump
270.1506.000 Ⓐ	20	1" flat	1,5	6	1,5 – 6	WILO ST 20/6-3
270.1516.000 Ⓐ	20	1" flat	3,3	6	4 – 16	WILO ST 20/6-3
270.1528.000 Ⓐ	20	1" flat	3,5	6	8 – 28	WILO ST 20/6-3



SOLAR STATION WITH FLOW AND RETURN (TWO LINES), VERSION WITH CARRIER FOR CONTROLLER

Complete with TacoSetter Inline 130, pump, insulation and safety group
$T_{0\ max}$: flow line: 160 °C / return line: 110 °C; $P_{0\ max}$: 8 bar, actuating pressure of safety valve 6 bar

Order no.	DN	G	k_{VS}[1]	k_{VS}[2]	Range (l/min)[3]	Circulating pump
270.1506.356 Ⓑ	20	1" flat	1,5	6	1,5 – 6	WILO ST 20/6-3
270.1516.356 Ⓑ	20	1" flat	3,3	6	4 – 16	WILO ST 20/6-3
270.1528.356 Ⓑ	20	1" flat	3,5	6	8 – 28	WILO ST 20/6-3

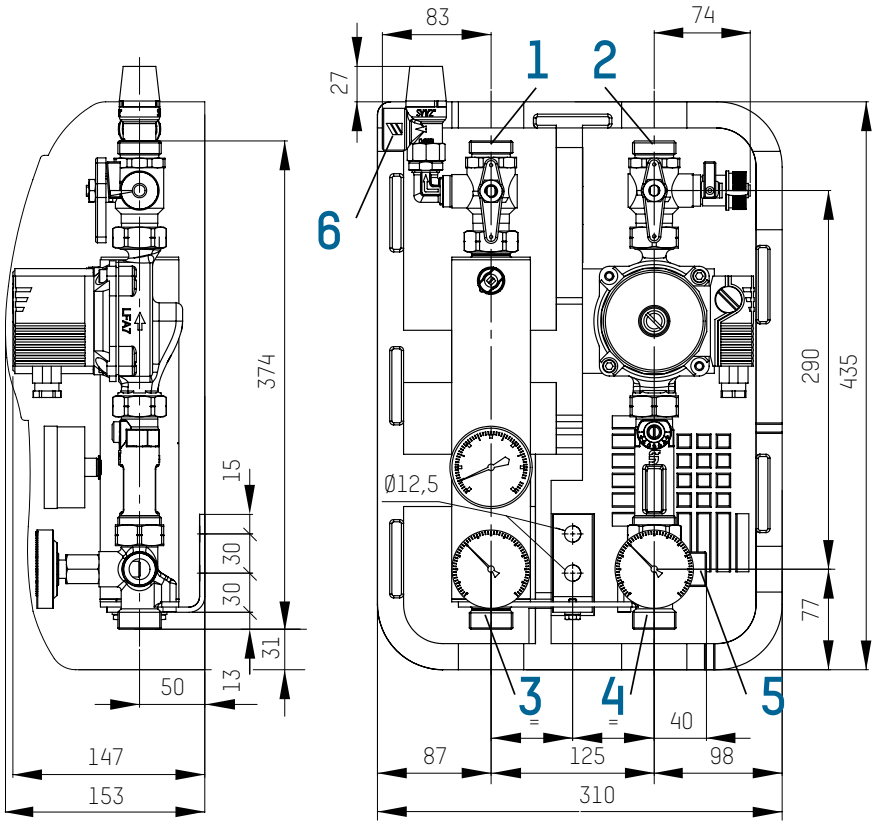
SOLAR STATION WITH FLOW AND RETURN (TWO LINES) WITH HIGH EFFICIENCY PUMP, VERSION WITH COVER PLATE

Complete with ventilator, TacoSetter Inline 130, pump, insulation and safety group;
$T_{0\ max}$: flow line: 160 °C / return line: 110 °C; $P_{0\ max}$: 8 bar, actuating pressure of safety valve 6 bar

Order no.	DN	G	k_{VS}[1]	k_{VS}[2]	Range (l/min)[3]	Circulating pump
270.8506.000	20	1" flat	1,5	6	1,5 – 6	GF 15-85
270.8516.000	20	1" flat	3,3	6	4 – 16	GF 15-85
270.8528.000	20	1" flat	3,5	6	8 – 28	GF 15-85

[1] k_{VS} [m^3/h] at υ = 1 mm^2/s in the return line (pump side)
[2] k_{VS} [m^3/h] at υ = 1 mm^2/s in the flow line (ventilator side)
[3] Reading scale for water-glycol mix with υ = 2,3 mm^2/s

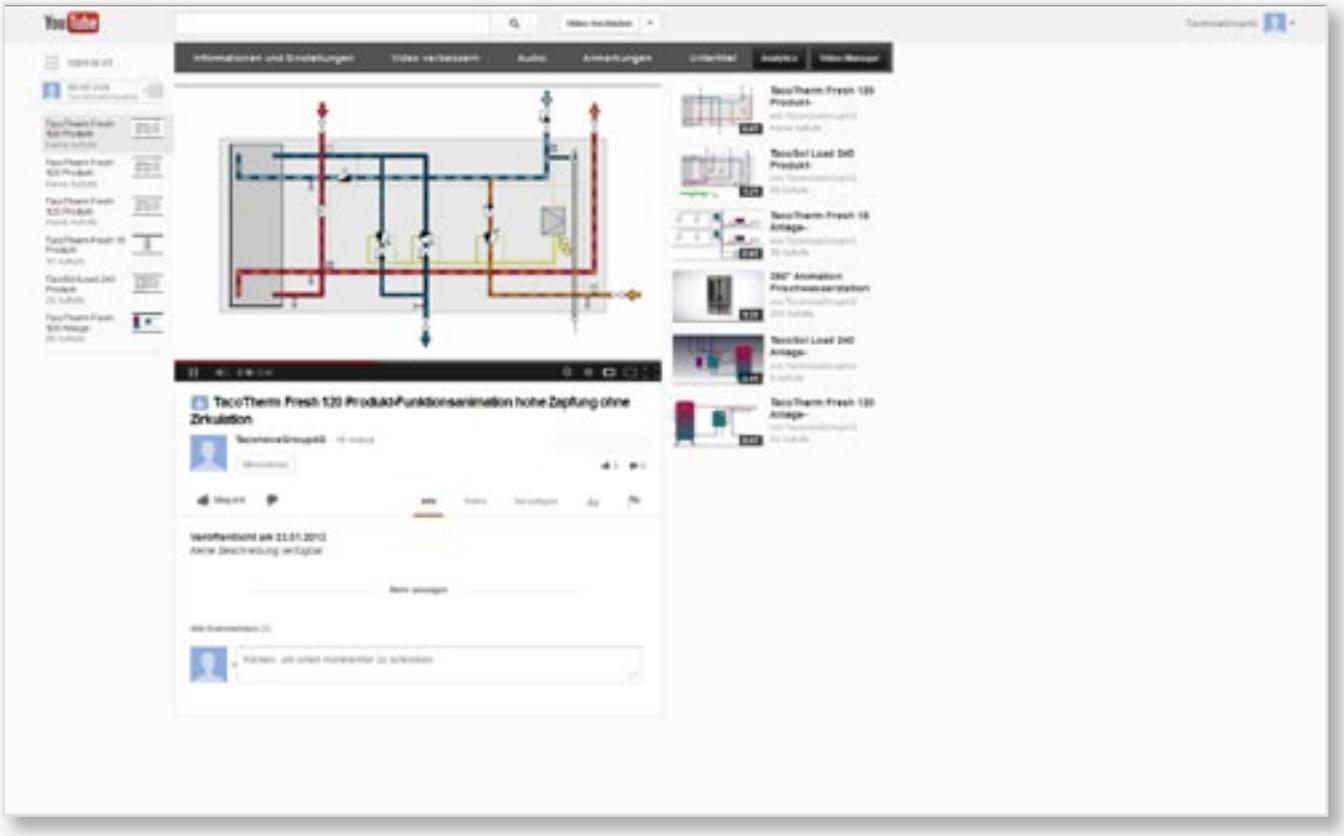
TACOSOL CIRC ZR – DIMENSIONS



1 Outer thread ISO 228, G 1" (line from collector)
2 Outer thread ISO 228, G 1" (line to collector)
3 Outer thread ISO 228, G 1" (line to storage unit)
4 Outer thread ISO 228, G 1" (line from storage unit)
5 Outer thread ISO 228, G ¾" (expansion vessel line)
6 Inner thread DIN 2999 / ISO 7, Rp ¾" (safety valve drainage line)

RANGE OF INFORMATION

YOU WILL FIND ANIMATED PRODUCT AND SYSTEM DIAGRAMS AND MUCH MORE ONLINE ON OUR YOUTUBE CHANNEL OR ON TACONOVA.COM



TACOSOL CIRC ZR PV EU21

DESCRIPTION

- Connection-ready two-line solar station with integrated TacoSetter Inline 130 balancing valve, safety group and ventilating unit
- Independent regulation of the output of the high-efficiency DC pump by means of an optional photovoltaic panel

ADVANTAGES

- Independent operation of the solar station by means of an optional photovoltaic panel EU21
- No need for the mains network connection for electric components of the solar station
- Functional check and hydraulic balancing without measurement devices, diagrams or tables, thanks to TacoSetter Inline 130 with accuracy of reading owing to glycol-calibrated reading scale
- Permanent automatic ventilation
- Multifunctional ball valve makes it much easier to fill and drain the system
- Integrated backflow preventer prevents incorrect circulation
- Pump can be changed with ease (lockable on the intake and output sides)
- Solar cycle can be divided into two half-circuits

FUNCTIONS

- The intensity of the global sunshine directly regulates the speed (output) of the pump by means of the voltage generated in the photovoltaic panel
- The temperature sensor integrated in the pump regulates and interrupts the volume flow in accordance with the return temperature
- The solar liquid heated in the collector is transported to the hot water/drinking water storage tank via a heat exchanger with the help of the solar station
- The integrated 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 with return spring
- The flow meter is integrated in the pump group
- The regulating screw on the flow meter is used to adjust the flow. The index mark is the lower edge of the float element

EQUIPMENT

- TacoSetter Inline 130 integrated balancing valve with direct display of the set flow rate in l/min; display already calibrated for medium viscosity of 2.3 mm^2/s
- Shutoff ball valve with safety valve and metal backflow preventer in flow and return
- Circulating pump: HE Laing D5 Solar
- Ventilating flask with ventilating valve
- Solar thermometer with a display range from 0 - 160 °C in the flow and return; installed in the protective pipe
- Manometer
- Mounting material

TECHNICAL DATA

- Operating temperature $T_{0\,max}$:
  - Flow line (ventilator side): 160 °C
  - Return line (pump side): $T_{0\,max}$: 95 °C
- Operating pressure $P_{0\,max}$: 8 bar
- Actuating pressure of the safety valve:
- 6 bar (alternatively 8 bar)
- Thread according to DIN 2999/ISO 7 and ISO 228
- Measuring precision of TacoSetter Inline 130: ± 10% (of the final value)
- k_{VS} value and measuring range: see next page

MATERIALS

- Ventilation flask: black steel, stove enameled
- Valve housing: brass
- Internal parts: stainless steel, brass, plastic
- Window: borosilicate
- O-ring seals: EPDM
- Flat seals: suitable for use in solar energy systems and resistant to high temperatures
- Carrier/hood: EPP

FLOW MEDIA

- See TacoSol Circ ER

TACOSOL CIRC ZR PV EU21– OVERVIEW OF MODELS

SOLAR STATION WITH FLOW AND RETURN (DUAL PHASE)

Complete with ventilator, TacoSetter Inline 130, pump, insulation and safety group.

$T_{0\,max}$: flow line: 160 °C / return line: 95 °C;

$P_{0\,max}$: 8 bar, actuating pressure of safety valve: 6 bar

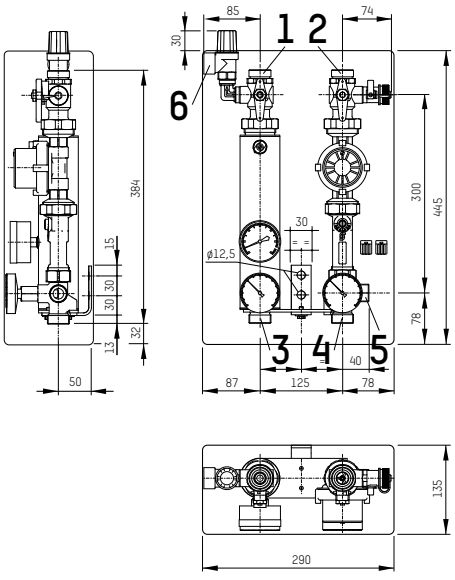
Order no.	DN	G	k_{VS}[1]	k_{VS}[2]	Range (l/min)[3]	Circulating pump
270.7506.000	20	1" flat	1,5	6	1,5 – 6	Laing D5 Solar
270.7516.000	20	1" flat	3,3	6	4 – 16	Laing D5 Solar

[1] k_{VS} [m³/h] at υ = 1 mm²/s in the return line (pump side)

[2] k_{VS} [m³/h] at υ = 1 mm²/s in the flow line (ventilator side)

[3] Reading scale for water-glycol mix with υ = 2,3 mm²/s

TACOSOL CIRC ZR PV EU21 – DIMENSIONS



1 Outer thread ISO 228, G 1" (line from collector)
2 Outer thread ISO 228, G 1" (line to collector)
3 Outer thread ISO 228, G 1" (line to storage unit)
4 Outer thread ISO 228, G 1" (line from storage unit)
5 Outer thread ISO 228, G ¾" (expansion vessel line)
6 Inner thread DIN 2999 / ISO 7, Rp ¾" (safety valve drainage line)

TACOSOL CIRC – ACCESSORIES AND REPLACEMENT PARTS

SOLDER JOINT PRESSURE FITTING

Flat sealing connector joint, consisting of a soldered connecting nipple, lock nut and flat seal suitable for solar technology, 2-piece set

Order no.	G x mm	Suitable for	Version for	Used in
210.5331.019	1" x 18	DN 20	18 mm copper pipe	ER, ZR, ZR PV EU21
210.5332.019	1" x 22	DN 20	22 mm copper pipe	ER, ZR, ZR PV EU21

COMPRESSION TYPE FITTING

Compression type connector for copper pipe, consisting of a compression fitting and lock nut, 2-piece set

Order no.	G x mm	Suitable for	Version for	Used in
210.3433.003	1" x 15	DN 20	Cu pipe 15 mm	ER, ZR, ZR PV EU21
210.3434.003	1" x 18	DN 20	Cu pipe 18 mm	ER, ZR, ZR PV EU21
210.3435.003	1" x 22	DN 20	Cu pipe 22 mm	ER, ZR, ZR PV EU21

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 ¾" internal thread with flat seal suitable for solar technology, G ¾" outer thread connector

Order no.	DN	G	Used in
296.7001.354	20	¾"	ER, ZR, ZR PV EU21

FILL AND DRAIN COCK ½"

KFE 430 SCA Solar

Order no.	DN	G	Used in
296.7053.000	20	¾"	ER, ZR, ZR PV EU21

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 ¾"

Order no.	DN	G	Used in
296.7002.000	20	¾"	ER, ZR, ZR PV EU21

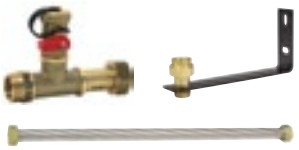
STAINLESS STEEL TUBE

For connecting the expansion vessel, incl. ¾" lock nut and flat seals suitable for solar technology

Order no.	DN	G	Length	Used in
296.7003.000	20	¾"	0,5 m	ER, ZR, ZR PV EU21

SLEEVE

Order no.	DN	G × G	Length	Used in
296.7004.000	25	1" × 1"	35 mm	ER, ZR, ZR PV EU21



SOLAR ACCESSORIES PACK

Consisting of T joint with fill and drain cock, mounting bracket, stainless steel tube

Order no.	DN	G	Length (m)	Used in
296.7005.000	20	¾"	0,5	ER, ZR, ZR PV EU21

PUMP CONTROLLER, DC-CONTROL

Optional for TacoSol Circ ZR PV EU21, for optimum effectiveness and prevention of overheating. The temperature sensors are mounted in thermowells in the collector and in the storage unit.

Scope of delivery

including two Pt1000 temperature sensors with a 2 m silicon cable

Order no.	Version	Used in
296.7014.362	Collector	ZR PV EU21

INSTALLATION SENSOR PT1000

Order no.	Usage	Length
296.7015.000	for solar controller or heat meter	0,5 m

TACOSETTER INLINE 130 BALANCING VALVE

Used in TacoSol Circ solar stations up to 03/2007

Brass, $T_{0\,max}$: 130 °C, $P_{0\,max}$: 8 bar, window with glycol scale (viscosity υ = 2,3 mm²/s)

Order no.	DN	G x G	Range (l/min)	Used in
223.7556.334	20	1" x 1" A	1,5 – 6	ER, ZR, ZR PV EU21
223.7566.334	20	1" x 1" A	4 – 16	ER, ZR, ZR PV EU21
223.7576.334	20	1" x 1" A	8 – 28	ER, ZR, ZR PV EU21

TACOSETTER INLINE PF BALANCING VALVE

Used in TacoSol Circ solar stations up to 03/2007

Brass, $T_{0\,max}$: 130 °C, $P_{0\,max}$: 8 bar, window with glycol scale (viscosity υ = 2,3 mm²/s)

Order no.	Range (l/min)	Suitable for
223.7356.334*	1,5 – 6	270.1X06.000
223.7366.334*	4 – 16	270.1X16.000
223.7376.334*	8 – 28	270.1X28.000

* as long as available

SOLAR SAFETY VALVE

$T_{0\,max}$: 130 °C, suitable for use in solar technology

Order no.	Response pressure	Used in
298.7011.000	6 bar	ER, ZR, ZR PV EU21
298.7014.000	8 bar	ER, ZR, ZR PV EU21

PRECISION SOLAR THERMOMETER

Display range 0 – 160 °C

Order no.	Used in
298.7013.000	ER, ZR, ZR PV EU21

MANOMETER

Display range 0 – 10 bar

Order no.	Used in
298.7012.000	ER, ZR, ZR PV EU21

CARRIER FOR CONTROLLER

Order no.	Used in
296.7020.000	ZR

COVER PLATE

Order no.	Used in
296.7021.000	ZR

BALL VALVE

With integrated backflow preventer

Order no.	Type	Used in
298.7050.000	Red lever, flow	ZR, ZR PV EU21
298.7051.000	Blue lever, return	ER (ohne SG), ZR, ZR PV EU21

PHOTOVOLTAIC PANEL EU21

Including mounting material

Size: 1210 mm x 155 mm x 38 mm

Note:

- Stepped reduction in speed with subsequent safe power-off of the pump at 95 °C
- Connector cable for PV panel; line loss indication in percent in various cross-sections, example of a PV module with 20 Wp, cable length: 20 m: 0,75 mm^2: 6,6 % / 1,50 mm^2: 3,3 % / 2,50 mm^2: 2 %

Order no.	Range	Used with
298.5030.000	16 W / 16,5 V	ZR PV EU21

CIRCULATING PUMPS

Order no.	Type	Version	Used in
298.7018.000	WILO ST 20/6	1" terminal box left	ER, ZR
298.7015.000	WILO ST 25/6	1½" terminal box left	ER, ZR
298.7020.000	WILO ST 20/6	1" terminal box left	ER, ZR
298.7019.000	WILO ST 20/7	1" terminal box left	ER, ZR
298.7021.000	WILO ST 20/7	1" terminal box right	ER, ZR
298.7025.000	WILO ST 25/7	1½" terminal box left	ER, ZR
298.7016.000	Grundfos Solar 25-60	1½" terminal box left	ER, ZR
298.7022.000	Grundfos Solar 15-60	1" terminal box right	ER, ZR
298.7024.000	Grundfos Solar UPS 15-80	1" terminal box right	ER, ZR
298.7026.000	Grundfos Solar UPS 25-40	1½" terminal box left	ER, ZR
298.7027.000	Grundfos Solar 15-85 HE	1"	ER, ZR
298.7017.000	Laing D5	1½"	ER, ZR, ZR PV EU21
298.7023.000	Laing D5 38/700 B Solar	1"	ER, ZR, ZR PV EU21

SOLAR CONTROLLER

SOLAR CONTROLLER RESOL DELTASOL

DESCRIPTION

- BS version: Solar controller for use in simple solar energy systems
- BS PRO version: Solar controller for use in singe storage, dual storage and east/west-facing roof solar energy systems and for controlling two separate T circuits

FUNCTIONS

- Illuminated system monitoring display with two pre-stored system layouts, pictograms, a 4-character, 16-segment alphanumeric display and a 4-digit, 7-segment numeric display for showing temperatures and control and setting parameters
- BS PRO has nine pre-stored system layouts, pictograms and speed control
- Pushbuttons for precise operation and changing of the specified rules
- Switchable options, such as cooling functions, collector emergency shutoff, pipe collector special function, heat balancing, anti-frost function, thermostat function, display language toggling between German and English
- Functional control in line with BAW guidelines

EQUIPMENT

- Plastic housing, 173 x 110 x 47 mm
- 2-line backlit LC system monitoring display
- 1 control lamp, two colors
- 4 temperature sensor inputs PT 1000
- Outputs:
  - 2 standard relay outputs (BS)
  - 2 semi-conductor relay outputs (BS PRO)
- Manual switching via software
  - Additional thermostat function for maintaining heat, system 2 (BS)
  - Additional thermostat function for maintaining heat, system 3 (BS PRO)
- 1 x accessories bag

SCOPE OF DELIVERY

- 2 or 4 PT 1000 temperature sensors (BS or BS PRO respectively)
  - 1 x or 2 x FKP6 with silicon line 1.5 m
  - 1 x or 2 x FRP6 with PUR line 2.5 m
- Operating instructions

Order no.	Version
296.7010.000	Resol DeltaSol BS
296.7011.000	Resol DeltaSol BS PRO

SOLAR CONTROLLER SOREL

DESCRIPTION

- Temperature differential controller (TDC)
- For different system variants
- Permits the solar energy or heating system to be used and controlled efficiently

ADVANTAGES

- Easy, self-explanatory operation
- The individual entry buttons are assigned to useful functions for each entry step, and are self-explanatory
- Along with keywords, the controller menu also offers help text for the measurement values and settings in addition to clear graphics

TDC 1

Function	Input/output	Scope of delivery
■ Five different, pre-installed heating systems can be set ■ Functional control and long-term monitoring of the system by means of data storage with statistics functions and evaluations ■ Optional recording of heat levels by means of a third sensor	■ Three PT 1000 sensor inputs ■ One 230 VAC mechanical relay output on ■ 2AT fuse ■ Protection class IP 40	■ Two temperature dipping sensors PT 1000 (sensor PT 1000B, measuring sleeve d = 5.5 mm) ■ 2 m silicon cable 180 °C ■ Installation and operating instructions

TDC 3

Function	Input/output	Scope of delivery
■ 15 different, pre-installed heating systems can be set with 1 to 2 collector surfaces and/or 1 to 2 solar storage units/pools ■ Functional control and long-term monitoring of the system by means of data storage with statistics functions and evaluations ■ Optional recording of heat levels by means of a third sensor	■ Three PT 1000 sensor inputs ■ One 230 VAC mechanical relay output on ■ One 230 VAC electronic output for speed regulation for standard pumps ■ 2AT fuse ■ Protection class IP 40	■ Three temperature dipping sensors PT 1000 (sensor PT 1000B, measuring sleeve d = 5.5 mm) ■ 2 m silicon cable 180 °C ■ Installation and operating instructions

TDC 4

Function	Input/output	Scope of delivery
■ 15 different, pre-installed heating systems can be set with 1 to 2 collector surfaces and/or 1 to 2 solar storage units/pools ■ Functional control and long-term monitoring of the system by means of data storage with statistics functions and evaluations ■ Optional heat metering by TacoControl Tronic and output sensor	■ Three PT 1000 sensor inputs ■ One 230 VAC mechanical relay output on ■ One 230 VAC electronic output for speed regulation for standard pumps ■ 2AT fuse ■ Protection class IP 40	■ Two temperature dipping sensors PT 1000 (sensor PT 1000B, measuring sleeve d = 5.5 mm) ■ 2 m silicon cable 180 °C ■ Installation and operating instructions

Order no.	Version	Info
296.7012.000	Sorel TDC 1	Simple systems
296.7013.000	Sorel TDC 3	Complex systems
296.7016.000	Sorel TDC 4	For TacSol Circ with HE circulating pumps

SENSOR PACKAGE

One PT 1000 temperature sensor with 2 m silicon line

Order no.

296.7009.000

DIPPING SLEEVE TH 150 / TH 45

For temperature sensor

Order no.	Dipping depth (mm)	Material
296.7007.000	150	Copper, nickel-plated, R ½"
296.7008.000	45	Brass, chrome-plated, R ½"

MAXIMUM ENERGY USE BY THE COLLECTOR

Storage loading stations transfer the solar heat from the collector to the right storage tank zone.

OPTIMAL USE OF THE SOLAR COLLECTOR

The TacoSol Load 25 and 240 storage loading stations increase the usage heat from solar systems by loading different zones of the storage tank depending on the available temperature from the solar circuit. In order to achieve optimum discharge of the solar collector, the temperature difference of the flow and return of the solar thermal energy system is significant. Low return temperatures ensure a high level of thermal transfer in the storage tank and the optimum discharge of the collector.

SECURE AND EFFICIENT USE OF SOLAR ENERGY AND REGENERATIVE ENERGIES

When using heat generators that are powered by renewable energies or that operated according to the principle of power-heat coupling, the heat produced is stored in a storage tank. Examples of this are solar heating systems, heat pumps, block heating stations or wood pellet and wood burning boilers. The storage tank means that long burner/aggregate running times can be achieved and free solar energy can be used efficiently.

STRATIFIED STORAGE UNIT LOADING WITH EXTERNAL LOADING STATIONS

The loading of storage tanks has a major influence over how efficiently the thermal energy generated by a solar energy or heating system can be used. It is important to avoid disrupting currents in the storage tank in order to support stratification. Eddies that impact on stratification mainly occur due to the difference in temperature between the contents of the storage tank and the heated water that flows in. The storage is generally loaded with the same temperature level as in the solar circuit. This means that although solar heat is pumped into the storage unit, mixing necessarily occurs if there is a difference in temperature. Stratified storage unit loading stations increase the amount of thermal energy that can be used when different storage tank zones are loaded, depending on the available temperature level.

STRATIFIED LOADING WITH TEMPERATURE BALANCING

Storage tank loading stations bring together the functions of the solar station and module in a pre-assembled module. Loading stations are used to load storage tanks with solar heat by means of powerful plate heat exchangers. A temperature-based storage tank loading means that the relevant storage tank zones are loaded in accordance with the temperature level available in the solar thermal energy system.

CONTROLLER COMPARES THE COLLECTOR AND STORAGE UNIT TEMPERATURE

The electronic controller ensures that the solar-heated hot water is delivered to the storage tank at precisely the temperature available at one of two storage unit inputs.
The controller evaluates the temperature differences of the primary and secondary side for this purpose.
The temperature values at the flow connections of the storage tank and in the collector determine which of the two buffer inputs is controlled.
The temperature data influences the pump speed in such a way that the hot water in the plate heat exchanger is heated to the temperature of the storage tank zone nearer to the collector temperature.

STABLE LOADING IN THE STORAGE TANK

The storage unit loading stations were developed for high energy yield in the collector and to establish stable stratification in the storage tanks without an internal heat exchanger. The electronically regulated loading station considers both the solar heat available from the collector circuit and the temperature in the storage tank.
Depending on their configuration, some storage unit loading stations for large solar energy systems allow large solar collector areas to be connected, achieving a high energy yield.

STRATIFIED STORAGE UNIT LOADING FOR TWO STORAGE TANK ZONES

The storage unit loading stations achieve a high energy yield from the collector and stable stratification in the storage unit.

BENEFITS AT THE PLANNING STAGE

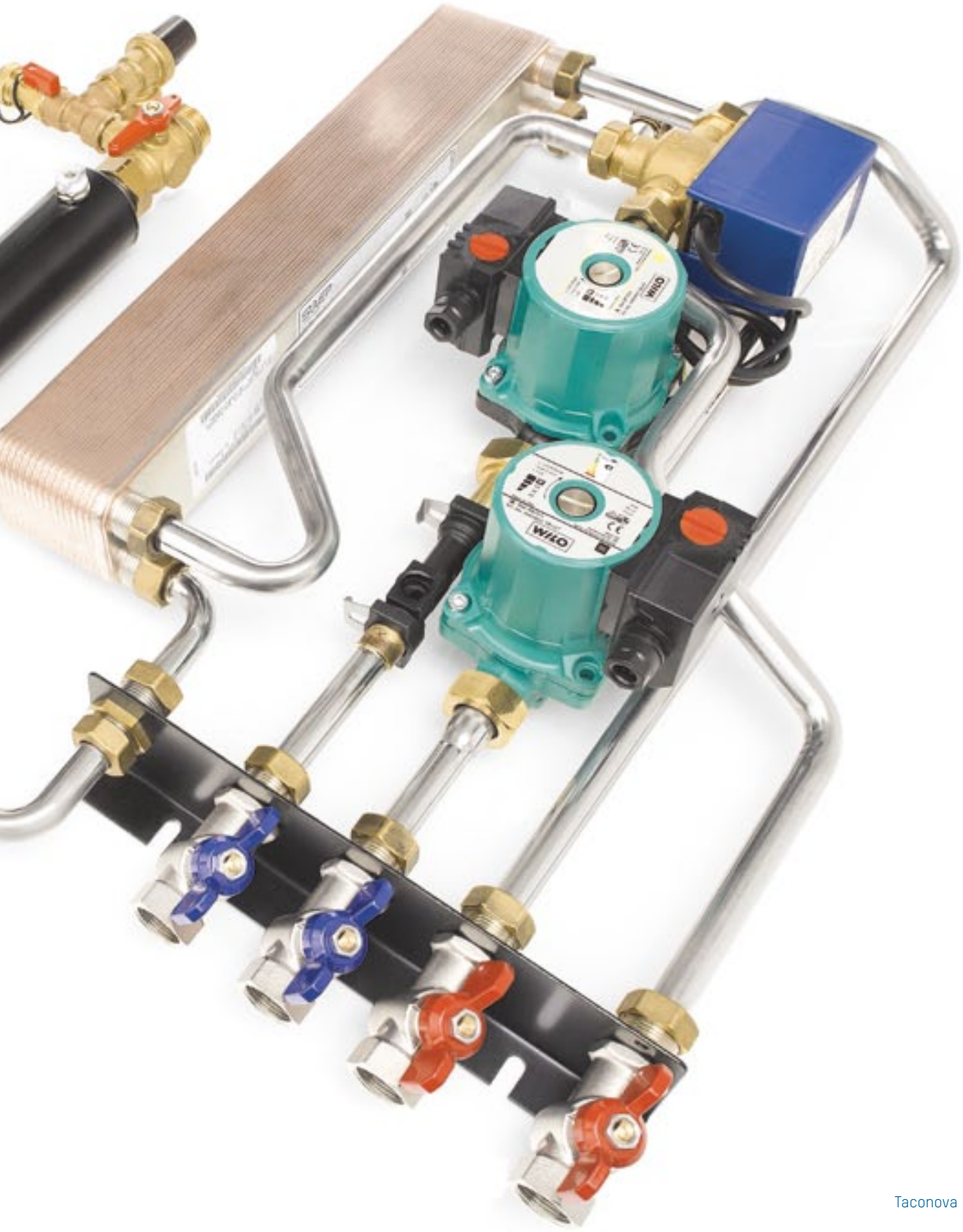
- Certainty during planning and dimensioning thanks to the compact installation-ready design
- Efficient planning thanks to hydraulic design and station configuration by the manufacturer
- Can be combined with a wide variety of heat generator and storage systems
- The compact design makes planning easier
- Costs can be kept under control during planning thanks to a clear, pre-configured component specification
- Enables the planner to position himself as an innovator

BENEFITS AT THE INSTALLATION STAGE

- Less time required to install, commission and maintain the system
- Increased sales and higher profits
- Service and guarantee from a single source
- Reliable operation thanks to high quality components
- Compact design means that less space is required for installation
- Easy to provide evidence of energy yield
- Satisfied customers
- Enables the fitter to position himself as an innovator

THE POWERFUL STATION

The ready-to-connect TacoSol Load 25 and 100-240 stations are a solar energy station and loading module in one. They have been designed to load one or two storage tanks via a solar heating energy system according to the flow temperature on a stratified basis. The generated solar energy is transferred to the stratified storage units via a highly efficient stainless steel plate heat exchanger. Both versions can be optimally combined with the TacoTherm Fresh fresh water stations.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TACOSOL LOAD 25/LOAD 25 LIGHT

DESCRIPTION

- Connection-ready storage loading station for the stratified loading of one or two storage units by means of a solar thermal energy system
- The station has a transfer capacity of up to 25 kW

ADVANTAGES

- Solar station and loading module in one unit
- Efficient solar thermal energy operation
- Stable stratification
- Preassembled for connection for immediate use
- Ideal addition to the TacoTherm Fresh fresh water station

FUNCTIONS

- The generated solar energy is transferred to the stratified storage units by means of a highly efficient stainless steel plate heat exchanger
- The preset innovative controller uses the speed control on the primary pump to guarantee optimum temperature differentiation for loading the stratified storage unit(s)
- The parameters required for this purpose are determined, for example, by the flow and temperature sensors
- The controller regulates the three-way switching valve to operate either storage inflow 1 or 2, thereby enabling optimum stratified loading in the storage tank

EQUIPMENT / TECHNICAL DATA

- Controller TSL 25
- Weight (empty): 17 kg
- Overall dimensions: W 595 mm, H 637 mm

Primary side:

- Operating temperature $T_{0\,max}$: 110 °C, briefly 160 °C
- Operating pressure $P_{0\,max}$: 6 bar
- TacoControl Tronic, measurement range: 2 – 40 l/min
- WILO pump Star ST 15/6-3
- Ventilator group with integrated shutoff, 1" AG and backflow preventer
- Safety group with safety valve
- 6 bar and manometer 0 – 6 bar and filling, purging and draining equipment
- Expansion vessel connection on intake side as per DIN, ¾" AG
- K_{VS} primary side: 2,2

Secondary side:

- Operating temperature $T_{0\,max}$: 110 °C
- Operating pressure $P_{0\,max}$: 3 bar
- Wilo circulating pump ST 15/4-3
- 3-way switching valve
- K_{VS} secondary side: 2,3

MATERIALS

- Pumps: cast iron
- Valve housing: brass
- Pipes: stainless steel
- Plate heat exchanger: stainless steel
- Sheets and supports: stainless steel 1.4400
- Solder: 99.99% copper
- Seals: Klingersil flush seal
- Insulation: EPP, black

FLOW MEDIA

- Heating water (VDI 2035; SIA Directive 384/1; ÖNORM H 5195–1)
- Water mixes with commonly used anti-corrosion and anti-freeze additives

BUILDING CATEGORIES

- Apartment blocks
- Single dwelling
- Multiple dwelling units

TACOSOL LOAD 25 – OVERVIEW OF MODELS

READY-TO-CONNECT STORAGE LOADING STATION FOR LOADING ONE OR TWO STORAGE TANK(S) BY MEANS OF A SOLAR TERMAL ENERGY SYSTEM

Pre-assembled, connection ready storage loading station with TacoControl Tronic in return line. Electronic regulation with TSL 25, ventilator group with integrated shutoff facility, filling, purging and drainage device, safety group with backflow preventer, WILO pump ST 15/6-3 on primary side, regulated, $T_{0\,max}$: 110 °C, $P_{0\,max}$: 6 bar WILO pump ST 15/4-3 on secondary side, $T_{0\,max}$: 100 °C, $P_{0\,max}$: 3 bar

Order no.	DN	Output	Collector surface
271.5350.000	20	25 KW	up to 50 m²

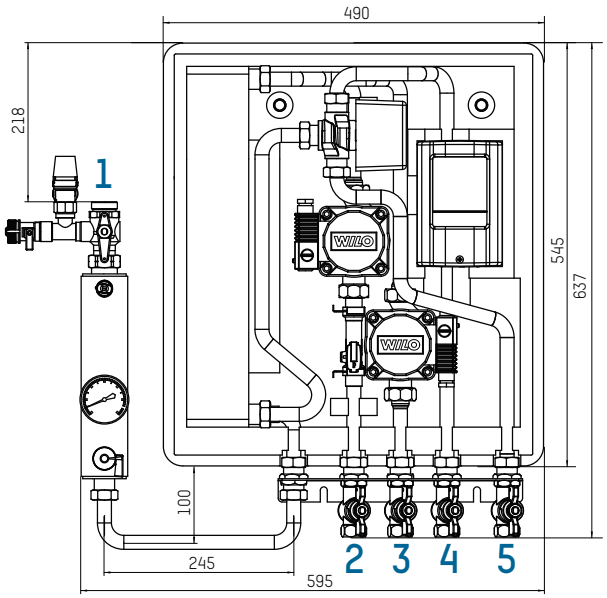
TACOSOL LOAD 25 LIGHT – OVERVIEW OF MODELS

READY-TO-CONNECT STORAGE LOADING STATION FOR LOADING A STORAGE TANK BY MEANS OF A SOLAR TERMAL ENERGY SYSTEM

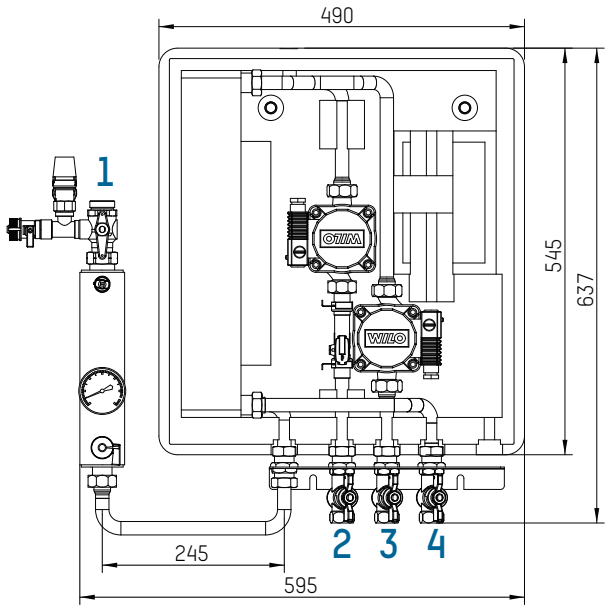
Pre-assembled, connection ready storage loading station with TacoControl Tronic in return line. Electronic regulation with TSL 25, ventilator group with integrated shutoff facility, filling, purging and drainage device, safety group with backflow preventer, WILO pump ST 15/6-3 on primary side, regulated, $T_{0\,max}$: 110 °C, $P_{0\,max}$: 6 bar WILO pump ST 15/4-3 on secondary side, $T_{0\,max}$: 100 °C, $P_{0\,max}$: 3 bar

Order no.	DN	Output	Collector surface
271.5352.000	20	25 KW	up to 50 m²

TACOSOL LOAD 25 – DIMENSIONS



TACOSOL LOAD 25 LIGHT – DIMENSIONS



1 Primary solar flow (outer thread ISO 228, G 1")
2 Primary solar return (inner thread ISO 228, G ¾")
3 Secondary storage return (inner thread ISO 228, G ¾")
4 Secondary storage flow 1 (inner thread ISO 228, G ¾")
5 Secondary storage flow 2 (inner thread ISO 228, G ¾")

TACOSOL LOAD 25 / LOAD 25 LIGHT – REPLACEMENT PARTS

CIRCULATING PUMP

Order no.	Type
298.5066.000	WILO ST 15/6-3 (primary)
298.5067.000	WILO ST 15/4-3 (secondary)

CONTROLLER

Order no.	Type	Suitable for
298.5063.000	Controller TSL 25	271.5350.000
296.7016.000	Controller TDC 4	271.5352.000

MISCELLANEOUS

Order no.	Type
298.5068.000	Plate heat exchanger
298.5069.000	Backflow preventer DN 25
298.5070.000	Backflow preventer DN 20
298.5071.000	Circulating temperature sensor
298.5072.000	Ball valve ¾" IG/AG, red lever
298.5073.000	Ball valve ¾" IG/AG, blue lever
298.5080.000	Safety valve ½" 6 bar
256.5373.999	3-way zoned valve 230 V ¾" AG

TACOSOL LOAD 240

CAD-Rendering

DESCRIPTION

- The ready-to-connect TacoSol Load 240 is both a solar energy station and a loading module combined in a single unit. It was designed to load one or two storage tanks via a solar heating energy system according to the temperature on a stratified basis.

ADVANTAGES

- Solar station and loading module in one unit
- Efficient solar thermal energy operation
  - By means of pump modulation on the primary and secondary side
  - By means of an integrated heat exchanger
- Functional controller concept
- Targeted storage feeding
- A second storage unit can be connected at any time
- Preassembled for connection for immediate use
- Ideal supplement to the fresh water station TacoTherm Fresh 120
- Permanent air separation
- Connection for expansion vessel integrated
- Safety valve, primary side
- Intrinsic safety of the station (secondary side) assured

FUNCTIONS

- Solar energy is transferred to a storage tank by means of a highly efficient stainless steel plate heat exchanger
- The pre-set, user-friendly controller uses rotational speed regulation to ensure regulation of the primary and secondary pump, while the addition of an optional primary pump ensures the optimum temperature differentials for loading the stratified storage unit(s)
- The controller also controls the three-way switching valve in order to achieve the best possible stratification in the storage unit

EQUIPMENT

- Controller
- Flow rate and temperature sensors
- One secondary pump and (optionally) up to two primary pumps
- Plate heat exchanger
- Pipes and shutoff valves
- Safety valve (intrinsically safe)
- Top cover
- Mounting material

TECHNICAL DATA

General

- Controller TSL 240
- Weight (empty): 122 kg
- Total dimensions: W 1204 mm × H 794 mm × D 424 mm

Primary side

- Operating temperature $T_{0\,max}$: 110 °C, kurzzeitig 140 °C
- Operating pressure $P_{0\,max}$: 8 bar
- Primary side
- Flow rate and temperature sensors integrated in the return line, measurement range: 10 – 200 l/min
- Primary pump: WILO Stratos Para 30/1-12 (0-10 V), can be extended with WILO Stratos Para 30/1-12 (0-10 V)
- Ventilator group with integrated shutoff, filling, purging and drainage facility

Secondary side

- Operating temperature $T_{0\,max}$: 110 °C
- Operating pressure $P_{0\,max}$: 3 bar
- DN25 safety valve (intrinsically safe) with 3 bar blow-off pressure
- WILO Stratos Para 30/1-12 (0-10 V)
- Switching valve DN 50

MATERIALS

- Pumps: cast iron
- Valve housing: brass
- Pipes: stainless steel
- Plate heat exchanger: stainless steel 1.4400
- Plates and connector pieces: stainless steel 1.4400
- Solder: 99.99% copper
- Seals: AFM

FLOW MEDIA

- Heating water (VDI 2035; SIA Directive 384/1; ÖNORM H 5195–1)
- Water mixes with commonly used anti-corrosion and anti-freeze additives

BUILDING CATEGORIES

- Apartment blocks, multiple dwelling units
- Residential care facilities and hospitals
- Hotels and restaurants, industrial kitchens
- School buildings and sports facilities
- Industrial buildings and systems

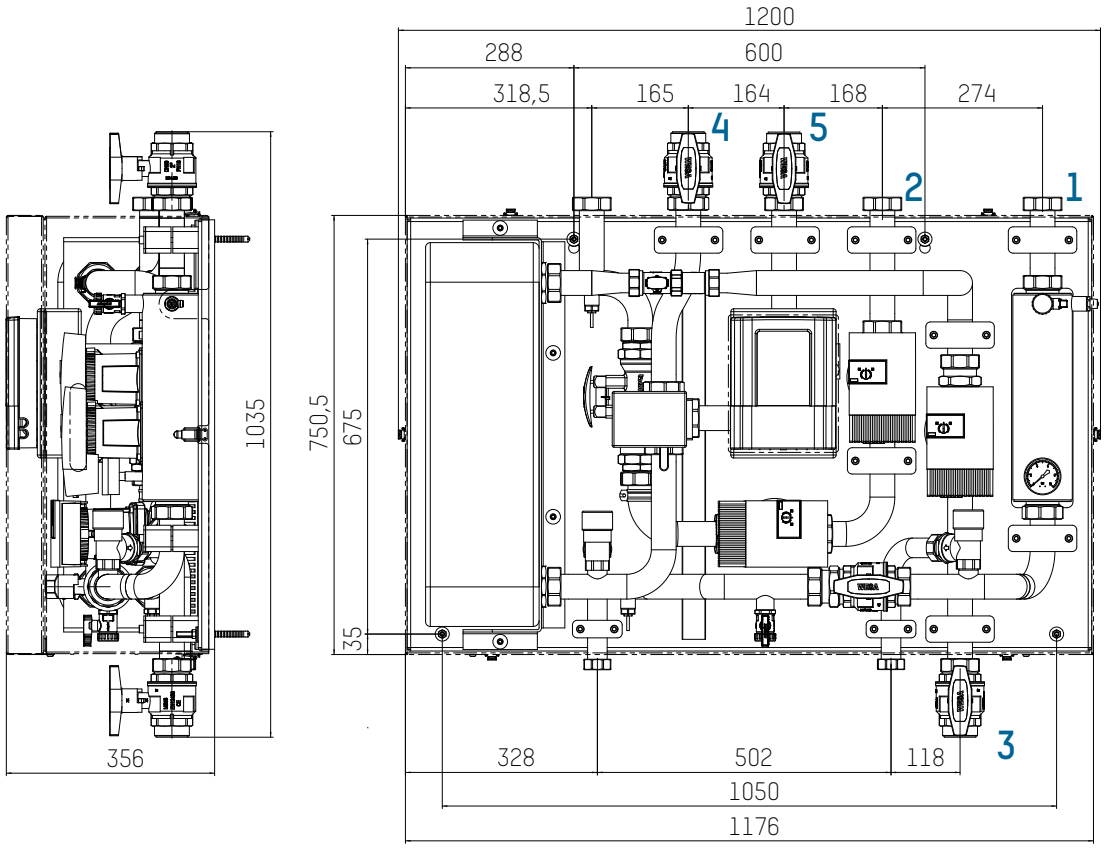
TACOSOL LOAD 240 – OVERVIEW OF MODELS

READY-TO-CONNECT STORAGE UNIT LOADING STATION

For large systems for the stratified loading of one or two storage units by means of a solar thermal energy system.

Order no.	Description
275.5561.000	Standard version
275.5561.382	Standard version thermally insulated
275.5562.383	Version with second primary pump, TacoSetter and thermal insulation

TACOSOL LOAD 240 – DIMENSIONS (SUBJECT TO MODIFICATIONS)



1 Primary solar flow (inner thread ISO 228, G 2")
2 Primary solar return (inner thread ISO 228, G 2")
3 Secondary storage return (inner thread ISO 228, G 2")
4 Secondary storage flow 1 (inner thread ISO 228, G 2")
5 Secondary storage flow 2 (inner thread ISO 228, G 2")

TACOSOL LOAD 240 – REPLACEMENT PARTS

BALANCING VALVE

Order no.	Type
223.2861.380	TacoSetter Bypass 100 (DN50) with insulation box
296.7033.000	2" adapter for TacoSetter Bypass 100

CIRCULATING PUMP

Order no.	Type
296.2499.000	Wilo Stratos Para 30/1-12 AG 2" - AG 2"
296.5087.000	Insulation shell for Wilo Stratos Para 30/1-12

MISCELLANEOUS

Order no.	Type
296.7030.000	Changeover valve with actuator, ball valve and connecting pipe
296.7031.000	Wall rails
296.7032.000	Insulation for heat exchanger

HOT WATER AS AND WHEN YOU NEED IT

Decentralized heating of drinking water has the advantage of needs-based supply without prior storage, thus providing effective protection against Legionella bacteria.

HYGIENIC HOT DRINKING WATER

Good quality drinking water is fundamental to our nutritional needs. Legislators have set down principles in this regard in a variety of ordinances and directives.
Replacing drinking water storage units with fresh water stations ensures the needs-based heating of drinking water and the associated hygienic requirements. In addition, such systems provide reliable protection against scalding and ensure the best possible use of the available energy source.

HEATING DRINKING WATER WITH FRESH WATER STATIONS

A larger quantity of hot drinking water is stored in the case of a standard installation for preparing hot water. From an energy perspective, it makes no sense to store heated drinking water, in particular in view of the high standards that apply to drinking water quality. Fresh water stations heat up water directly on demand, thus avoiding the hygiene problems and loss of energy associated with the storage of hot drinking water.
The thermal energy required is drawn directly from a storage tank or stratified storage unit. Electronic control means that the user is also protected against Legionella and scalding.

CAN BE COMBINED WITH ANY ENERGY SYSTEM

The use of thermal energy from a storage tank means that the decentralized heating of drinking water does not depend on the way in which heat is generated: The storage tank can be loaded by means of solar energy, gas or oil-fueled burners, pellet or wood-burning boilers or heat pumps.

DECENTRALIZED HEATING OF DRINKING WATER FOR RESIDENTIAL CONSTRUCTION

In order to cater for the hot water requirements of individual residential units Taconova has added the TacoTherm Fresh 15 transfer station to its range, enabling the decentralized supply of hot water in residential buildings.
Using the TacoTherm Fresh 15 fresh water station means that there is no need for large central drinking water storage systems and thus minimizes the measures needed to protect against Legionella.

HIGH HOT WATER OUTPUT IN COMMERCIAL PROPERTIES

Despite its compact size, the TacoTherm Fresh 120 hot water station can be relied upon to dispense high volumes of hot water in commercial buildings.
The solar heat stored in the storage tank is thus also available to support the heating process, enhancing efficiency.

ELECTRONIC OR MECHANICAL CONTROL

While the larger TacoTherm Fresh 40 and TacoTherm Fresh 120 fresh water stations operate with electronic controllers, the supply of heat in the small variant is controlled by a proportional controller by means of the pressure differential on the primary side.

OPTIMUM USE OF SPACE

The compact design of the fresh water station outside the solar storage unit and storage tank means that there is no need for a hot drinking water storage tank and the additional space available can be use to add more or bigger storage tanks.

THE LINK BETWEEN THE STORAGE TANK AND THE HOT DRINKING WATER SYSTEM

Fresh water stations heat up drinking water as and when needed using any storage tank.

BENEFITS AT THE PLANNING STAGE

- Certainty during the planning and dimensioning of drinking water systems
- A wide range of hot water output sizes can be planned without Legionella risk
- Modules and materials approved for drinking water
- Efficient planning thanks to hydraulic design and configuration
- Can be combined with a wide range of storage tank systems
- The compact design makes planning easier
- Costs can be kept under control during planning thanks to a clear, pre-configured component specification
- Enables the planner to position himself as an innovator

BENEFITS AT THE INSTALLATION STAGE

- Less time required to install, commission and maintain the system
- Increased sales and higher profits
- Service and guarantee from a single source
- Reliable operation thanks to high quality components
- Easier to provide proof of hot water quality
- Compact design means that less space is required for installation
- Satisfied customers
- Enables the fitter to position himself as an innovator

THE INSTANT STATION

Ready-to-connect fresh water stations TacoTherm Fresh 15, 40 and 120 do not store hot drinking water. This enables them to avoid the hygiene problems and loss of energy caused though storage and standby losses. The water is only heated up as required directly by means of plate heat exchangers.
The TacoTherm Fresh 15 regulates the water temperature in a purely mechanical manner and therefore requires no auxiliary energy.
The TacoTherm Fresh 120 has an extraordinary performance range.
The fresh water stations can be optimally combined with the TacoSol Load solar heating stations.


WILO
WILO
MFC 3

TACOTHERM FRESH 15

DESCRIPTION

- Connection-ready, thermally insulated, sound-proofed transfer station for heating drinking water

ADVANTAGES

- Little installation effort required because the station is completely pre-assembled and connection-ready
- System is easy to install even in existing private homes
- Compact and hygienic because a drinking water storage tank is not required and water is not allowed to stagnate, avoiding the build-up of Legionella
- Comfort and security thanks to optimum control of the hot water temperature as well as thermal insulation and sound-proofing
- Energy costs reduced through the regulation of hot water temperature without auxiliary electric energy

FUNCTIONS

- The TTF15 is a highly efficient fresh water station for supplying hot water in a domestic setting
- The energy required to heat up the hot water is taken from the heating distribution network and fed through the plate heat exchanger in accordance with the counterflow principle
- The integrated proportional volume control ensures a constant hot water temperature at the outlet at dispensing rates of up to 16 l/min

EQUIPMENT

- Proportional volume control
- Plate heat exchanger
- Sound-proofing and thermal insulation
- Pipes and shutoff valves
- Mounting material

TECHNICAL DATA

- Weight (empty): 11 kg
- Overall dimensions: W 340 mm, H 540 mm, D 215 mm
- Dispensing range: 2.3-16 l/min 45 °C hot fresh water with a flow temperature of 65 °C and a pressure differential on the primary side of 300 mbar

Primary side:

- Operating temperature $T_{0\,max}$: 95 °C
- Operating pressure $P_{0\,max}$: 300 mbar
- Ball valves DN 20, IG 1"
- K_{VS} primary side: 2,22

Secondary side:

- Operating temperature $T_{0\,max}$: 95 °C
- Operating pressure $P_{0\,max}$: 3 bar
- Ball valves DN20 IG 1"
- Dispensing volume: up to 16 l/min
- Opening flow rate: 2,3 l/min
- K_{VS} secondary side: 1,56

MATERIALS

- Primary side: 2.22 Secondary side: 1.56
- Valve housing: for controller brass
- Pipes: 1.4404
- Heat exchanger: stainless steel 1.4401, approved for drinking water
- Heat exchanger solder: copper 99.9 %
- Valves and screw connectors: brass and plastic, approved for drinking water
- Seals: Centellen WS 3820, flush seal
- Carrier/hood: EPP
- Mounting material: steel or plastic

FLOW MEDIA

- Heating water (VDI 2035; SIA Directive 384/1; ÖNORM H 5195–1)
- Cold water according to DIN 1988-200:2012-05

BUILDING CATEGORIES

- Apartment blocks
- Single dwelling
- Multiple dwelling units

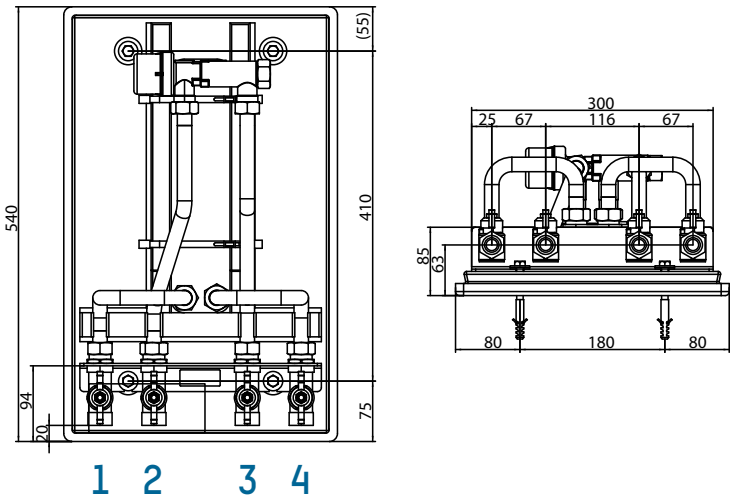
TACOTHERM FRESH 15 – OVERVIEW OF MODELS

TRANSFER STATION

Ready-to-connect transfer station for heating warm water

Order no.	DN	RP	Tap flow volume
272.0012.000	20	¾"	Up to 16 l/min

TACOTHERM FRESH 15 – DIMENSIONS



1 Secondary hot water output (inner thread ISO 228, G ¾")
2 Secondary cold water input (inner thread ISO 228, G ¾")
3 Primary heating system return (inner thread ISO 228, G ¾")
4 Primary heating system flow (inner thread ISO 228, G ¾")

TACOTHERM FRESH 40

DESCRIPTION

- Connection-ready thermally insulated, sound-proofed transfer station for heating drinking water
- Integrated electronic regulation with a dispensing capacity of up to 40 l/min

ADVANTAGES

- Little installation effort required as the station is completely preassembled and comes fully wired and connection-ready
- Certainty in planning thanks to DVGW, SVGW and KTW approvals for components that come in contact with drinking water
- VDE-approved controller
- Compact and hygienic because a drinking water storage tank is not required and water is not allowed to stagnate
- Convenient and safe thanks to optimum control and limiting of the hot water temperature
- Energy-efficient thanks to needs-based timing, modulation and deactivation of the integrated pumps

FUNCTIONS

- Drinking water is heated to the required dispensing temperature in the TacoTherm Fresh 40 in accordance with the cyclical principle. The integrated heat exchanger is supplied with as little water from the storage tank as is required to maintain a constant dispensing temperature
- In recording the temperature difference and flow rate data, the electronic regulation at the same time records and stores the quantity of water consumed
- As an option, the TacoTherm Fresh 40 is also available with a circulation connector and pump. This pump is controlled by the integrated regulation system by means of a separate program

EQUIPMENT

- Controller
- Volume flow sensor
- Primary pump
- Optional circulation line and secondary pump
- Plate heat exchanger
- Pipes and shutoff valves
- Safety valve
- Sound-proofing and thermal insulation
- Mounting material

TECHNICAL DATA

- Technical data: see specification sheet
- Operating temperature: $T_{0\,max}$: 95 °C
- Operating pressure:
  Primary circuit: $P_{0\,max}$: 3 bar
  Secondary circuit: $P_{0\,max}$: 10 bar
- k_{VS} value, primary: 2,2
- k_{VS} value, secondary: 2,3
- Weight: 14 kg

Electric connection data

- Mains voltage: 230 VAC ± 10 %
- Network frequency: 50...60 Hz
- Power consumption: 2 VA

MATERIALS

- Pipes: 1.4404
- Heat exchanger: 1.4401 SVGW
- Heat exchanger solder: copper 99.9 %
- Carrier/hood: EPP
- Valves: brass or plastic, approved for drinking water

BUILDING CATEGORIES

- Apartment blocks
- Single dwelling
- Housing estates
- Multiple dwelling units

FLOW MEDIA

- Heating water
  (VDI 2035; SIA Directive 384/1; ÖNORM H 5195–1)
- Cold water according to DIN 1988-200:2012-05

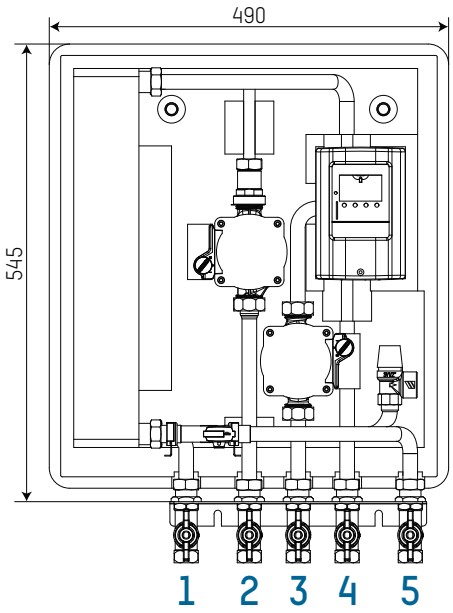
TACOTHERM FRESH 40 – PERFORMANCE DATA

FRESH WATER STATION

Fully pre-assembled and wired for immediate connection, with electronic anti-scalding protection, electronic regulation with TacoControl Tronic, TTF 40 integrated in insulation, circulating pump WILO RS 15/6-3 KUP on the primary side, WILO Z RS 15/4-3 KUP on the secondary side

Order no.	DN	RP	Tap flow range (l/min)	Version
272.5020.000	20	¾"	2 – 40	Without circulation
273.5020.000	20	¾"	2 – 40	With circulation

TACOTHERM FRESH 40 – DIMENSIONS



1 Primary heating system flow (inner thread ISO 228, G ¾")
2 Primary heating system return (inner thread ISO 228, G ¾")
3 Circulation (optional) (inner thread ISO 228, G ¾")
4 Cold water input (inner thread ISO 228, G ¾")
5 Hot water output (inner thread ISO 228, G ¾")

TACOTHERM FRESH 40 – REPLACEMENT PARTS

CIRCULATING PUMPS

Order no.	Type	Suitable for
298.5064.000	WILO Star RS 15/6 KUP (primary side)	272.5020.000 / 273.5020.000
298.5065.000	WILO RS 15/4-3 KUP (secondary side)	273.5020.000

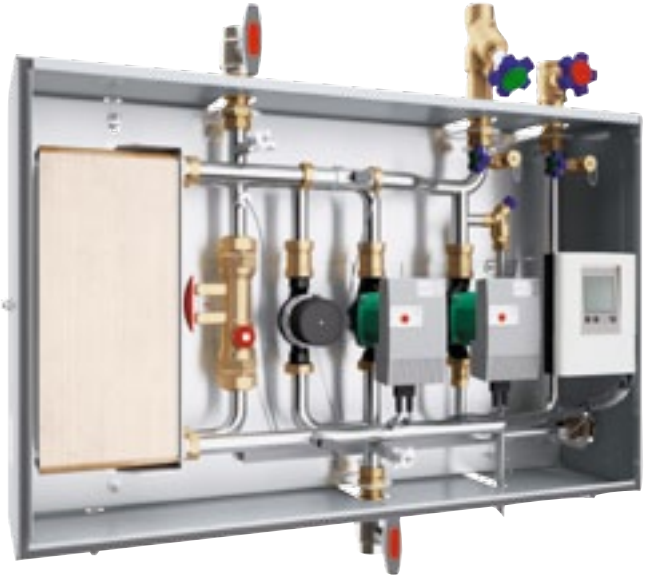
CONTROLLER

Order no.	Type	Suitable for
298.5062.000	TTF 40	272.5020.000 / 273.5020.000

OTHER

Order no.	Type	Suitable for
298.5068.000	Plate heat exchanger	272.5020.000 / 273.5020.000
298.5069.000	Backflow preventer DN 25	272.5020.000 / 273.5020.000
298.5070.000	Backflow preventer DN 20	273.5020.000
298.5071.000	Circulation temperature sensor	273.5020.000
298.5072.000	Ball valve ¾" IG/AG, red lever	272.5020.000 / 273.5020.000
298.5073.000	Ball valve ¾" IG/AG, blue lever	272.5020.000 / 273.5020.000
298.5080.000	Safety valve ½" 6 bar	272.5020.000 / 273.5020.000

TACOTHERM FRESH 120



DESCRIPTION

- Ready-to-connect fresh water station for particularly fast, efficient generation of fresh hot water in large systems

ADVANTAGES

- Little installation effort required as the station is completely preassembled and comes fully wired and connection-ready
- Certainty in planning thanks to DVGW, SVGW and KTW approval for components that come in contact with drinking water
- System is easy to install even in existing private homes and industrial buildings
- Compact and hygienic because a drinking water storage tank is not required and water is not allowed to stagnate, avoiding the build-up of Legionella
- Convenient and safe thanks to optimum control

FUNCTIONS

- The TTF120 is a high-efficiency fresh water station for supplying hot water in a broad dispensing range
- The energy required for preparing the hot water is taken from the heat storage unit of the heating system and is fed through a plate heat exchanger as required
- The freely selectable dispensing temperature is controlled by means of the variable volume flow on the primary side
- The pumps are controlled by means of the controller integrated in the stations

EQUIPMENT

- Controller
- Volume flow sensors
- Primary and secondary pump
- Circulation pumps
- Plate heat exchanger
- Pipes and shutoff valves
- Safety valve
- Device cover
- Mounting material

TECHNICAL DATA

- Controller TTF 120
- Weight (empty): approx. 75 kg
- Overall dimensions: W 1270 mm, H 1080 mm, D 400 mm
- Tap flow range: Up to 120 l/min of fresh water heated to 60 °C with a flow temperature of 80 °C and a cold water temperature of 10 °C
- Return temperature <30°C

Primary side

- Operating temperature $T_{0\,max}$: 85 °C
- Operating pressure $P_{0\,max}$: 3 bar
- Primary pump I: Laing E6-PWMS 25/180 BP100
- Primary pump II: Wilo Stratos Para 25/1-12 (180mm)

Secondary side

- Operating temperature $T_{0\,max}$: 85 °C
- Operating pressure $P_{0\,max}$: 10 bar
- Safety valve (intrinsic safety) 10 bar, DN15
- Circulation pump: Stratos ECO-Z 25 / 1-5 or Stratos PARA-Z 25 / 1-8 (180mm)

MATERIALS

- Pipes: 1.4404
- Heat exchanger: 1.4401 SVGW
- Heat exchanger solder: copper 99.9 %
- Valves: brass or plastic, approved for drinking water
- Seals: Centellen
- Design hood made from galvanized, powder-coated sheet metal

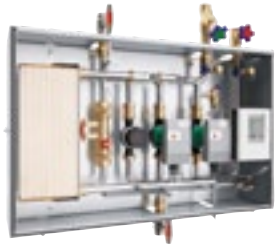
BUILDING CATEGORIES

- Apartment blocks, multiple dwelling units
- Residential care facilities and hospitals
- Administration and service buildings
- Hotels and restaurants, industrial kitchens
- School buildings and sports facilities
- Industrial buildings and systems
- Facilities with partial use – for example, barracks, camping sites, etc.

FLOW MEDIA

- Heating water (VDI 2035; SIA Directive 384/1; ÖNORM H 5195–1)
- Cold water according to DIN 1988-200:2012-05

TACOTHERM FRESH 120 – OVERVIEW OF MODELS

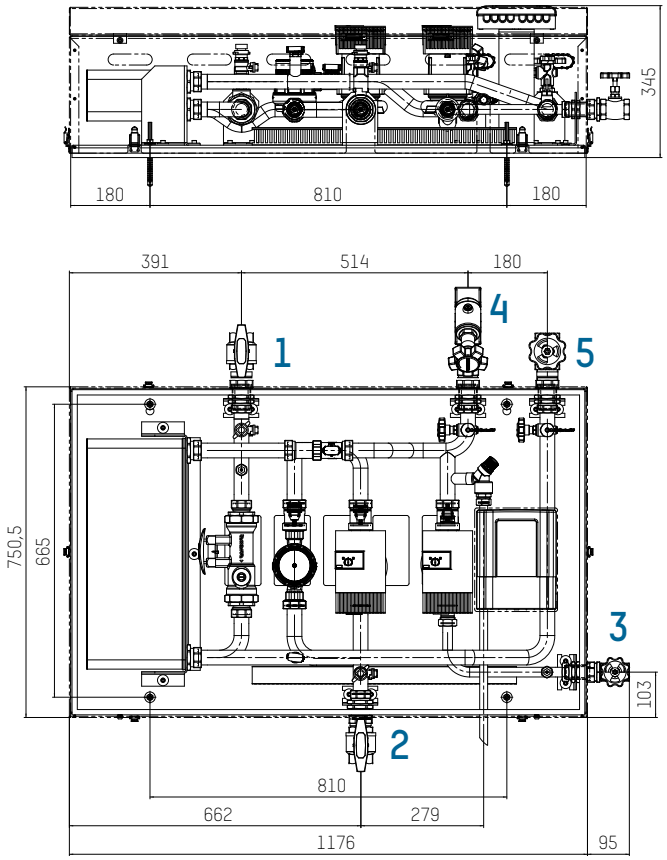


TACOTHERM FRESH 120

Fresh water station for large systems, equipped with two primary pumps

Order no.	Description
273.5530.000	Standard version
273.5530.382	Standard version thermally insulated

TACOTHERM FRESH 120 – DIMENSIONS



1 Primary heating system flow (inner thread ISO 228, G 1 ½")
2 Primary heating system return (inner thread ISO 228, G 1 ½")
3 Circulation (inner thread ISO 228, G 1")
4 Cold water input (inner thread ISO 228, G 1 ½")
5 Hot water output (inner thread ISO 228, G 1 ½")

TACOTHERM FRESH 120 – REPLACEMENT PARTS

BALANCING VALVE

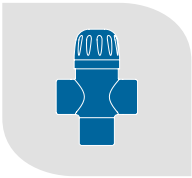
Order no.	Type
223.2661.380	TacoSetter Bypass 100 (DN40) with insulation box
296.7034.000	1 ½" adapter for TacoSetter Bypass 100

CIRCULATING PUMP

Order no.	Type
296.5094.000	Laing E6-PWMS 25/180 BP100
296.5092.000	Wilo Stratos Para 25/1-12
296.5091.000	Wilo Stratos Para Z 25/1-8
296.5090.000	Insulation shell for Wilo Stratos Para Z 25/1-8
296.5089.000	Insulation shell for Wilo Stratos Para 25/1-12
296.5088.000	Insulation shell for Laing E6-PWMS 25/180 BP100

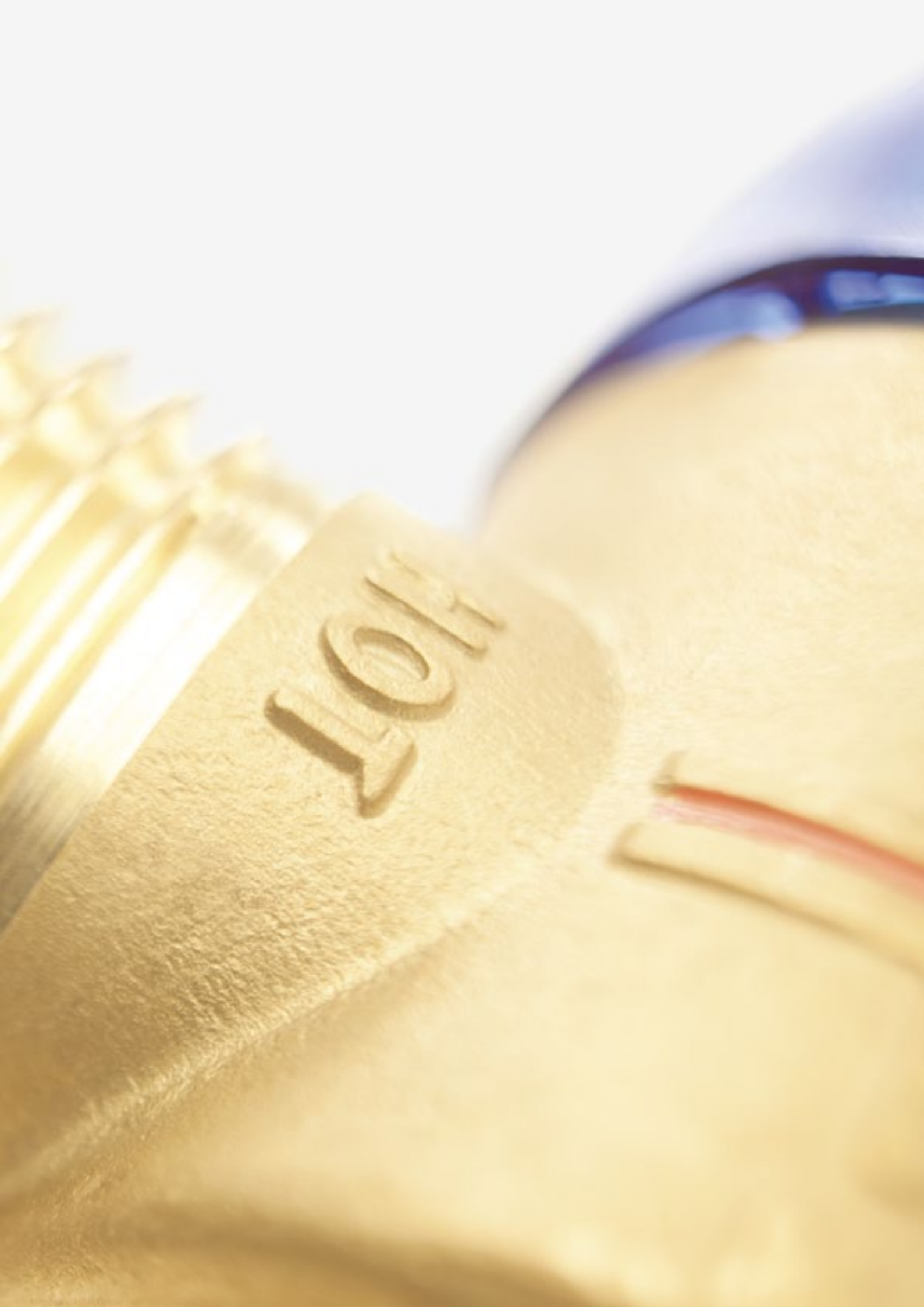
MISCELLANEOUS

Order no.	Type
296.7031.000	Wall rails



VALVES AND ACCESSORIES

Along with balancing valves and actuators, a smoothly working heating or cooling system also needs a number of other compact aids: modern valves and fittings guarantee comfort, energy efficiency and ultimate safety. Valves and accessories from Taconova automatically ventilate heating systems since only continuously ventilated systems work with the greatest efficiency. In the solar energy and sanitary sector, thermal mixer valves reduce the high domestic hot water temperatures to a constant, non-scalding temperature at the outlet. Multifunctional valves and accessories for monitoring the pressure in heating systems provide additional safety. Sophisticated sensors and measuring equipment – for example, for individual heat metering, complete the comprehensive range of Taconova fittings.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FOR THE GREATEST SAFETY IN BUILDING SERVICES

Professionally installed measuring and control valves and accessories are essential elements in the protection of people and equipment against damage. Taconova offers a wide range of top-quality products.

Mixing valves	
The reliable NovaMix mixing valves ensure constant mixing temperatures at the outlet and prevent scalding. Used in the sanitation, heating and solar thermal areas where quality and safety are required.	■ NovaMix Value ■ NovaMix Standard ■ NovaMix High Capacity ■ NovaMix Compact

Zone valves	
The NovaZone Ball and NovaZone Valve zone valves supply system components or individual units with the appropriate volume flow or switch them off.	■ NovaZone Ball ■ NovaZone Valve

Multi purpose unit	
The extremely compact TriBloc valve is a safety group for heating systems to ventilate, to aerate, and to indicate and relieve pressure.	■ TriBloc

Ventilation valves	
The reliable TacoVent ventilation valves remove unwanted air from heating systems. This increases the efficiency and reduces costs.	■ TacoVent HyVent ■ TacoVent Vent ■ TacoVent AirScoop

Flow meter	
Volume flows can be measured and indicated electronically or in a purely mechanical manner. With the electronic option the temperature can also be measured at the same time.	■ TacoControl Tronic ■ TacoControl FlowMeter

APPLICATIONS

Valves and accessories from Taconova can be used in various ways in heating, air conditioning, ventilation and sanitary systems:

Heating and cooling energy generation	Heating and cooling energy distribution (Indoor temperature control)	Sanitary systems
■ Solar thermal energy ■ Oil, gas, electricity, biomass ■ District heating	■ Underfloor heating ■ Radiators ■ Chilled and heated ceilings	■ Fresh water

RELIABLE LIMITATION OF HOT WATER OUTLET TEMPERATURE

A convenient supply of hot water is closely linked with the need to have hygienic drinking water and to save energy. Measures to prevent scalding are essential in both private sanitary systems and in private homes.

PROTECTION AGAINST SCALDING IN ALL SITUATIONS

Mixing valves from Taconova cover a wide range of application areas, from single wash hand basin to central temperature limiting for large throughput volumes:

At the wash stand connection:

The NovaMix Compact mixing valve limits the hot water temperature directly at the wash hand basin connection, thereby providing effective protection against scalding in both public and private sanitary systems. This means that the hot water temperature can have high temperatures applied until directly before the dispensing point.

At the outlet of the hot water storage unit or continuous water heaters:

This type of installation offers the necessary protection against scalding in small hot water supply systems, such as detached, single family homes. The mixing valve ensures a constant and precise mixing temperature.

In large hot water supply systems:

With large throughput volumes of up to 100 l/min, the NovaMix High Capacity regulates the set temperature.

In panel heating systems:

For mixing the required flow temperature.

In renewable energy systems:

For ensuring correct loading of the storage tank when using solid fuels.

SAFE TEMPERATURE CONTROL

A fast-response thermal element in the NovaMix mixing valve ensures effective protection against scalding, precise temperature regulation and constant hot water temperatures at the dispensing point. Should the cold water feed fail, the regulating unit automatically stops the hot water feed.

Those parts of the NovaMix mixing valves that come in contact with the medium are approved for use in drinking water installations.

The internal parts have a protective layer to prevent calcification.

THERMAL DISINFECTION

For manual thermal disinfection the setting can simply be changed to maximum temperature and then back again.

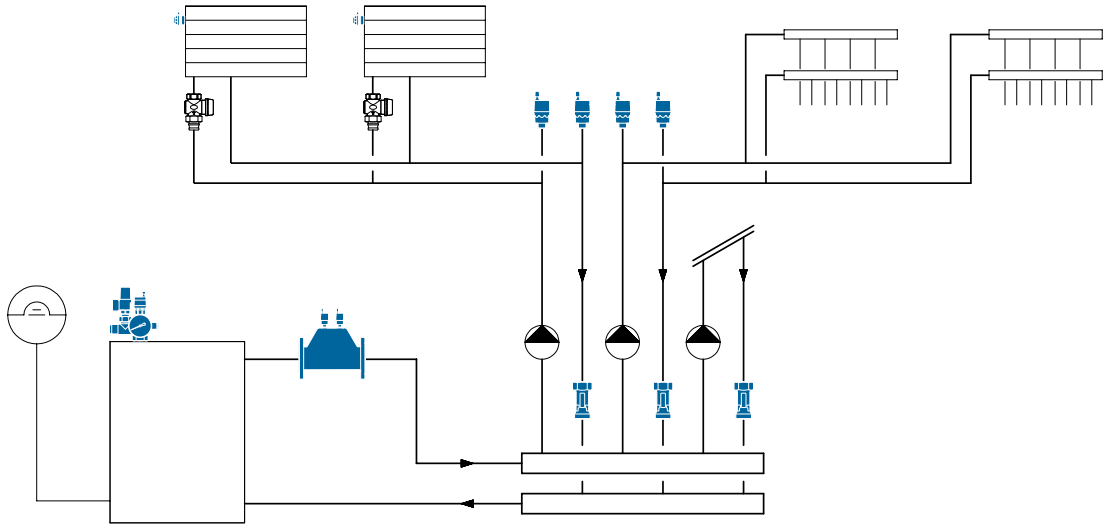
MAINTAINING A CONSTANT TEMPERATURE IN HOT WATER CIRCULATION SYSTEMS

In addition to the main function for limiting the temperature, the NovaMix mixing valves can also be used to reduce energy consumption in circulation systems. For this the thermostatic mixing valve is used as a by-pass between the circulation and hot water line before the water re-enters the hot water storage station. If no hot water is dispensed, the set temperature is maintained in the circulating circuit without unnecessarily pumping the water through the storage unit.

MIXING VALVE FOR TEMPERATURE ISOLATION

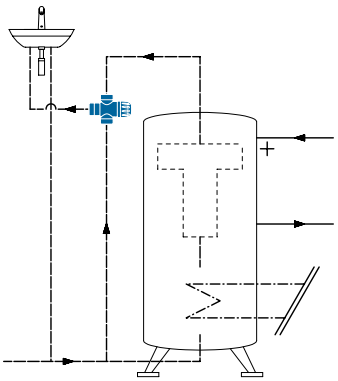
One possible application for cooling systems and air-conditioning systems is to use the NovaMix as a diverting valve. The valve is supplied with water from the mixing water connection and separates the medium into two temperature zones.

USE OF THE TACONOVA VALVES AND ACCESSORIES IN HEATING SYSTEMS

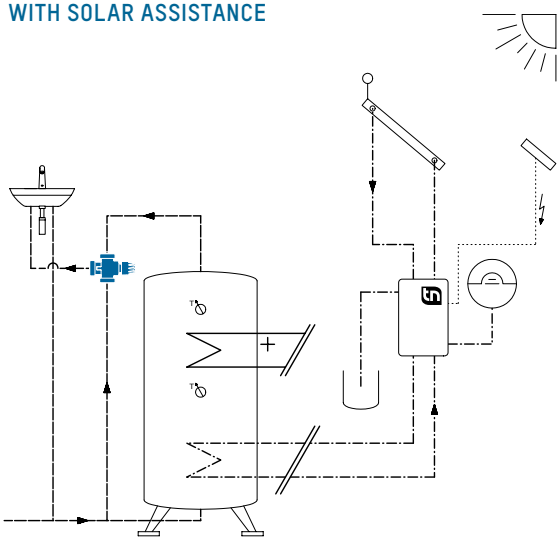


USE OF TACONOVA MIXING VALVES IN THE HEATING SYSTEM

DRINKING WATER AT A CENTRAL LOCATION



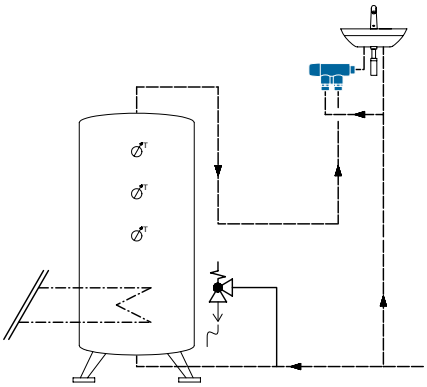
DRINKING WATER AT A CENTRAL LOCATION WITH SOLAR ASSISTANCE



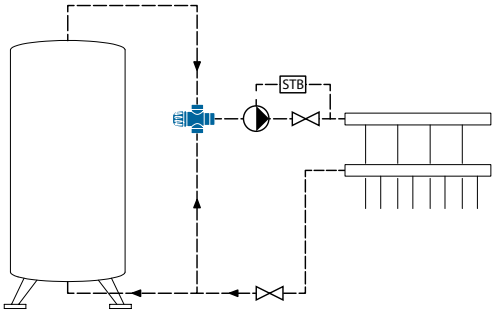
Expansion vessel Pump Temperature indication

USE OF TACONOVA MIXING VALVES IN THE HEATING SYSTEM (CONTD.)

DRINKING WATER AT THE OUTLET

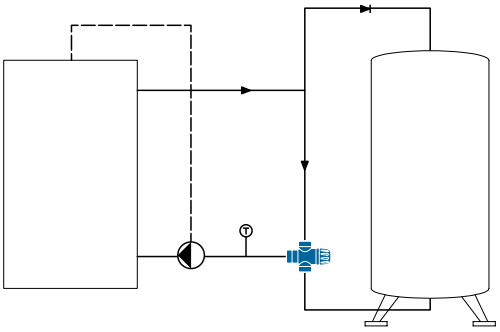


PANEL HEATING SYSTEM

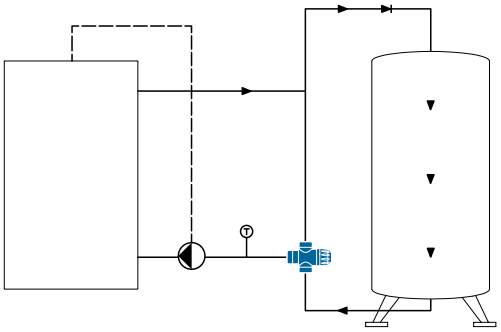


SOLID FUELS FOR LOADING THE STORAGE TANK

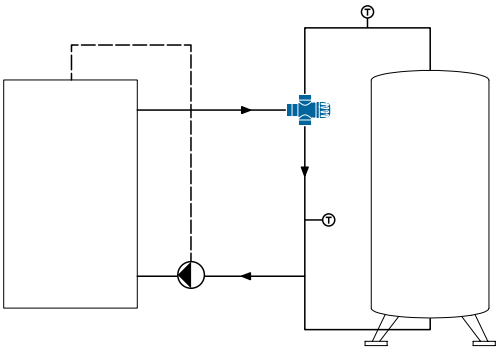
MIXING IN THE BOILER CIRCUIT



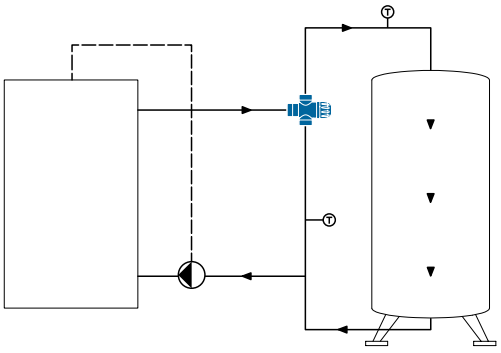
MIXING IN THE STORAGE LOADING CIRCUIT



CIRCULATING IN THE BOILER CIRCUIT



CIRCULATING IN THE STORAGE LOADING CIRCUIT



TACONOVA MIXING VALVES

INFLOW	TEMPERATURE RANGE & PRODUCT	PRODUCT NUMBER	DRINKING WATER AT A CENTRAL LOCATION		DRINKING WATER AT A CENTRAL LOCATION WITH SOLAR ASSISTANCE		DRINKING WATER AT THE OUTLET		PANEL HEATING SYSTEM (FLOOR, CEILING, WALL, THERMAL ACTIVATION OF BUILDING STRUCTURE)		STORAGE LOADING (SOLID FUELS)	
			$k_{VS} < 2$	$k_{VS} > 2$	$k_{VS} < 2$	$k_{VS} > 2$	$k_{VS} < 2$	$k_{VS} > 2$	$k_{VS} < 2$	$k_{VS} > 2$	$k_{VS} < 2$	$k_{VS} > 2$
	20 – 40 °C Standard (MT52)	252.6023.104	■				■					
		252.6024.104		■								
		252.6023.107							■			
		252.6024.107								■		
	20 – 70 °C High Capacity (MT52)	252.6034.107		■		■				■		■
	45 – 65 °C Value (MT53)	253.1002.000	■		■		■					
		253.1102.000*	■		■		■					
		253.1003.000		■		■						■
		253.1004.000		■		■						■
		253.1103.000*		■		■						
		253.1104.000*		■		■						
	30 – 70 °C Value (MT53)	253.2002.000	■		■		■		■			
		253.2102.000*	■		■		■					
		253.2003.000		■		■				■		■
		253.2004.000		■		■				■		■
		253.2103.000*		■		■						
		253.2104.000*		■		■						
	30 – 70 °C Standard (MT52)	252.6003.104	■		■							
		252.6003.107	■		■				■			
		252.6003.330*	■		■							
		252.6043.104	■				■					
		252.6004.104		■		■						
		252.6004.107		■		■				■		■
	30 – 50 °C Compact 50 TMV-2	252.6073.107*					■					
	30 – 70 °C Compact 70	252.6072.104*					■					

* Backflow preventer integrated

A backflow preventer is not required with panel heating systems and load valves.

SAFE USE OF THE HOT WATER AT A CONSTANT TEMPERATURE

The thermostatic mixing valves from Taconova provide reliable temperature controls, meeting the requirements to prevent scalding. The automatic function of the mixing valves requires no auxiliary energy and therefore removes the need for additional regulatory components.

BENEFITS AT THE PLANNING STAGE

- Compliance with drinking water regulations
- Compliance with the Energy Conservation Act (EnEV) as no auxiliary energy is required for regulating the mixer
- Can be used for maintaining the temperature in hot drinking water systems; surface heating systems; load valves for wood-burning boilers
- Can be used as a diverting valve when water needs to be separated into two temperature zones
- Compliance with applicable design regulations for:
  - Constant hot water temperatures
  - Cold water feed failure
  - Protection against scalding

BENEFITS AT THE INSTALLATION STAGE

- Variable installation position
- Possibility to lock the set point adjustment (tamper proofing)
- Low-maintenance thanks to internal parts with non-stick coating to prevent calcification
- Backflow preventer can be integrated as an accessory
- Replaceable thermostat element
- High temperature regulation range for thermal disinfection
- Constant hot water temperatures without additional installation of sensors and regulators

THE INDEPENDENT UNIT

The thermal mixing valves from Taconova work independently and completely without auxiliary energy. As the central mixing unit, they provide constant mixing temperatures at the outlet, while protecting against scalding at the same time. The high-quality NovaMix valves are used in the solar, sanitary and heating areas – i.e., everywhere where reliably constant mixing temperatures are needed.

NOVAMIX VALUE

DESCRIPTION

- Thermostatic mixing valve
- Maintaining constant mixing temperatures and limiting temperatures in hot water systems

ADVANTAGES

- Drinking water certification for components in contact with the medium
- Constant water temperature at the outlet ensures protection against scalding
- Continuously variable setting of the mixing water temperature between 45 and 65 °C and between 35 and 70 °C with a high level of control accuracy
- Can be used as a diverting valve (for medium separation); inflow via a mixing gate
- Non-stick coating on valve housing to prevent scale build-up
- Available in three different valve sizes – also with backflow preventer on request
- Replaceable thermostatic element with piston
- Special valve seals reduce admixtures to a minimum

FUNCTIONS

- The mixing valve is supplied with hot water from a storage unit and with cold water from the piping network
- The temperature of the mixed water is recorded by the thermostatic expansion material element
- If the mixed water temperature diverges from the target value, the expansion material element moves the regulator piston, thus regulating the hot and cold water intake quantity accordingly, until the mixed water temperature matches the target value

TECHNICAL DATA

- Operating temperature $T_{0\,max}$: 100 °C (with backflow preventer: 90 °C)
- Operating pressure:
  - Max.: 10 bar
  - Min.: 0.5 bar
- Working pressure (dynamic): max. 5 bar
- Constant inlet pressure differential: max. 2 bar
- Adjustable temperature range: 45 – 65 °C
- Temperature stability for mixing: max. 3 K (for change in hot water temperature: 15 K)
- Locking function upon cold water supply failure
- Installation position: can be installed in any position

MATERIALS

- Housing: brass (resistant to dezincification)
- Inner parts: high-quality plastic
- Seals: EPDM
- Housing with lime resistant-coating

APPLICATIONS

- Regulator/mixing unit for constant water mixing temperature at the outlet in the sanitary area
- Mixing valves in heating systems or as diverting valves (for medium separation) for temperature control
- Anti-scalding protection at the outlet

NOVAMIX VALUE – TYPE OVERVIEW

NOVAMIX VALUE 65 (FAIL SAFE)

W270

Thermostatic mixing valve for the temperature range 45 – 65 °C (compliant with EN15092)

Order no.	DN	G	Built-in check valve	V (l/min)	k_{VS} (m^3/h)
253.1002.000	15	¾"	no	26	1,6
253.1003.000	20	1"	no	36	2,2
253.1004.000	25	1¼"	no	56	3,4
253.1102.000	15	¾"	yes	25	1,5
253.1103.000	20	1"	yes	35	2,1
253.1104.000	25	1¼"	yes	55	3,3

NOVAMIX VALUE 70 (FAIL SAFE)

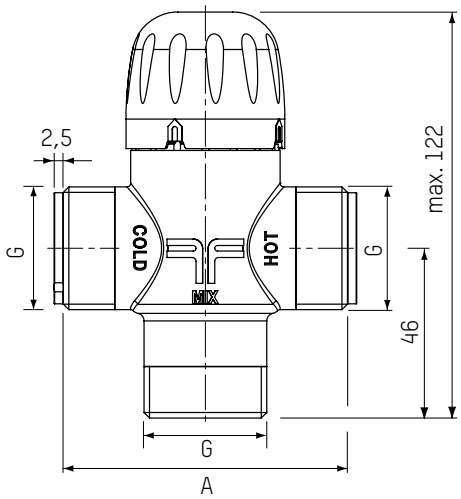
W270

Thermostatic mixing valve for the temperature range 35 – 70 °C (75 °C for Legionella flushing)

Order no.	DN	G	Built-in check valve	V (l/min)	k_{VS} (m^3/h)
253.2002.000	15	¾"	no	26	1,6
253.2003.000	20	1"	no	36	2,2
253.2004.000	25	1¼"	no	56	3,4
253.2102.000	15	¾"	yes	25	1,5
253.2103.000	20	1"	yes	35	2,1
253.2104.000	25	1¼"	yes	55	3,3

V = Volume obtained at Δp = 1 bar

NOVAMIX VALUE – DIMENSIONS



Order no.	DN	A
253.X002.000	15	76
253.X003.000	20	77
253.X004.000	25	77
253.X102.000	15	76
253.X103.000	20	77
253.X104.000	25	77

NOVAMIX VALUE – ACCESSORIES AND REPLACEMENT PARTS

INSULATION BOX

EPP, H 110 x W 100 x D 95 (mm)

Order no.	DN
296.2329.000	15
296.2330.000	20
296.2331.000	25

SCREW CONNECTIONS FOR FEMALE THREAD RP

Set of one Order no.	Set of three Order no.	DN	G x R
210.6630.000	210.6630.004	15	¾" x ½"
210.6631.000	210.6631.004	20	1" x ½"
210.6632.000	210.6632.004	20	1" x ¾"
210.6633.000	210.6633.004	25	1¼" x 1"

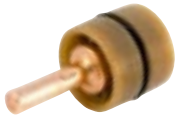
SCREW CONNECTIONS FOR COPPER PIPE (SOLDER CONNECTION) (SET OF 3)

Order no.	G x mm	For	Fits
210.5331.004	1" x 18	Copper pipe 18	DN 20
210.5332.006*	1" x 22	Copper pipe 22	DN 20
210.5332.008	1" x 22	Copper pipe 22	DN 20
210.5333.004	1¼" x 22	Copper pipe 22	DN 25
210.5334.004	1¼" x 28	Copper pipe 28	DN 25

* Nickel-plated washer

CHECK VALVE

Order no.	DN	G
296.5210.003	15	¾"
296.5211.003	20	1"
296.5212.003	25	1¼"



REGULATING PISTON WITH THERMOSTAT ELEMENT

Order no.	Control range
298.5280.000	for all versions

CAP AND SHAFT

Order no.	Control range	G
298.5281.000	45 – 65 °C	¾"
298.5282.000	45 – 65 °C	1"
298.5283.000	45 – 65 °C	1¼"
298.5284.000	35 – 70 °C	¾" + 1"
298.5285.000	35 – 70 °C	1¼"

NOVAMIX STANDARD AND HIGH CAPACITY

DESCRIPTION

- Thermostatic mixing valve
- Maintaining constant mixing temperatures and limiting temperatures in hot water systems

ADVANTAGES

- Constant water temperature at the outlet
- Drinking water certification (SVGW)
- Special models with anti-scalding protection in the event of failure of the cold water supply
- Continuously variable setting of the mixing water temperature between 20 - 40 °C and 20 - 70°C and 30 - 70 °C
- High-precision control
- Can be used as a diverting valve (for medium separation); inflow via a mixing gate
- Non-stick coating on valve housing to prevent scale build-up
- Available in two different valve sizes – also with backflow preventer on request
- Replaceable thermostatic element with piston
- Special valve seals reduce admixtures to a minimum for NovaMix High Capacity

FUNCTIONS

- The mixing valve is supplied with hot water from a storage unit and with cold water from the piping network
- The temperature of the mixed water is recorded by the thermostatic expansion material element
- If the mixed water temperature diverges from the target value, the expansion material element moves the regulator piston, thus regulating the hot and cold water intake quantity accordingly, until the mixed water temperature matches the target value

TECHNICAL DATA

- Operating temperature $T_{0\,max}$: 100 °C (with backflow preventer: 90 °C) and 80 °C respectively
- Operating pressure:
  - Max.: 10 bar
  - Min.: 0,5 bar
- Working pressure (dynamic): max. 5 bar
- Constant inlet pressure differential: max. 2 bar
- Adjustable temperature range: 30 – 70 °C and 20 – 40 °C respectively
- Temperature stability for mixing: max. 3 K (for change in hot water temperature: 15 K)
- Locking function in the event of failure of the cold water supply
- Installation position: can be installed in any position

MATERIALS

- Housing: brass (resistant to dezincification)
- Inner parts: high-quality plastic
- Seals: EPDM
- Housing with lime resistant-coating

APPLICATIONS

- Regulator/mixing unit for constant water mixing temperature at the outlet in the sanitary area
- Mixing valves in heating systems or as diverting valves (for medium separation) for temperature control
- Anti-scalding protection at the outlet

NOVAMIX STANDARD AND HIGH CAPACITY – MODELS

NOVAMIX STANDARD 40/70

Thermostatic mixing valve for storage water heating unit

Order no.	DN	G	Control range (°C)	V (l/min)	k_{VS} [1]	k_{VS} [2]
252.6023.104	20	1"	20 – 40	39	1,9	1,65
252.6024.104	25	1¼"	20 – 40	53	2,6	2,25
252.6003.104	20	1"	30 – 70	39	1,9	1,65
252.6003.330*	20	1"	30 – 70	39	–	1,65
252.6004.104	25	1¼"	30 – 70	53	2,6	2,25

* With integrated check valve

NOVAMIX STANDARD 70 FR (FAST RESPONSE)

Thermostatic mixing valve for continuous flow water heating

Order no.	DN	G	Control range (°C)	V (l/min)	k_{VS} [1]	k_{VS} [2]
252.6043.104	20	1"	30 – 70	22	1,1	0,7

NOVAMIX STANDARD 70 FS (FAIL SAFE)

Thermostatic mixing valve with anti-scalding protection in the event of failure of the cold water supply for storage water heating units

Order no.	DN	G	Control range (°C)	V (l/min)	k_{VS} [1]	k_{VS} [2]
252.6023.107	20	1"	20 – 40	39	1,9	1,65
252.6024.107	25	1¼"	20 – 40	53	2,6	2,25
252.6003.107	20	1"	30 – 70	39	1,9	1,65
252.6004.107	25	1¼"	30 – 70	53	2,6	2,25

V = Volume obtained at Δp = 1,5 bar

[1] k_{VS} [m³/h] = without check valve | [2] k_{VS} [m³/h] = with check valve

NOVAMIX HIGH CAPACITY 70

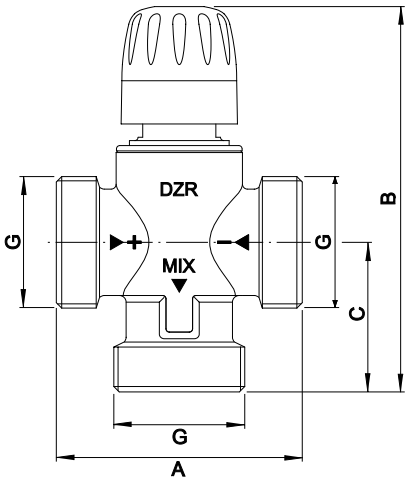
Thermostatic mixing valve with high flow speeds and anti-scalding protection in the event of the cold water supply failing.

Order no.	DN	G	Control range (°C)	V (l/min)	k_{VS} [1]	k_{VS} [2]
252.6034.107	25	1¼"	20 – 70	102	6,1	5,9

V = Volume obtained at Δp = 1 bar

[1] k_{VS} [m³/h] = without check valve | [2] k_{VS} [m³/h] = with check valve

NOVAMIX STANDARD AND HIGH CAPACITY – DIMENSIONS



Order no.	DN	G	A	B	C
252.6003.XXX	20	1"	74	115	45
252.6004.104	25	1¼"	74	115	45
252.6023.104	20	1"	74	115	45
252.6024.104	25	1¼"	74	115	45
252.6043.104	20	1"	74	115	45
252.6003.107	20	1"	74	115	45
252.6004.107	25	1¼"	74	115	45
252.6034.107	25	1¼"	85	134	52

NOVAMIX STANDARD AND HIGH CAPACITY – ACCESSORIES AND REPLACEMENT PARTS

INSULATION BOX

EPP, H 110 x W 100 x D 95 (mm)

Order no.	DN	Fits
296.2326.000	20	NovaMix Standard
296.2327.000	25	NovaMix Standard
296.2328.000	25	NovaMix High Capacity

FAST-REACTING PRECISION THERMOMETER, SENSOR TUBE NICKEL-PLATED

Fits ½"-T-piece (precision class 2.5 in the range 40 – 60 °C)

Order no.	R	Sensor length	Indication range
278.1002.000	½"	39 mm	0 – 80 °C

INSERT BACKFLOW PREVENTER FOR NOVAMIX STANDARD

Operating temperature $T_{0\,max}$: 95 °C; operating pressure: 10 bar;
for insertion in the screw connection at the cold and hot water inlets
Including flat seals; approved for drinking water; set of two (set of two)

Order no.	Fits
296.5203.003	252.6003/.6023/.6043
296.5204.003	252.6004/.6024

CHECK VALVE FOR NOVAMIX HIGH CAPACITY

Operating temp.: 95 °C; operating pressure: 10 bar; with threaded screw connections; for hot and cold water supply, including flat seals; approved for drinking water (set of two)

Order no.	DN	G x R	Fits
296.5205.003	25	1¼ x 1"	252.6034.107

MATCHING THIRD SCREW CONNECTION

Order no.	DN	G x R	Fits
210.6633.000	25	1¼ x 1"	252.6034.107

SCREW CONNECTIONS FOR FEMALE THREAD RP INCLUDING FLAT SEALS

Order no. (Set of one)	Order no. (Set of three)	G x R	For	Fits
210.6630.000	210.6630.004	¾ x ½"	Female thread Rp ½"	DN 15
210.6631.000	210.6631.004	1 x ½"	Female thread Rp ½"	DN 20
210.6632.000	210.6632.004	1 x ¾"	Female thread Rp ¾"	DN 20
210.6633.000	210.6633.004	1¼ x 1"	Female thread Rp 1"	DN 25

SCREW CONNECTIONS FOR COPPER PIPE (SOLDERED CONNECTION) (SET OF THREE)

Order no.	G x mm	For	Fits
210.5331.004	1" x 18	Copper pipe 18	DN 20
210.5332.006*	1" x 22	Copper pipe 22	DN 20
210.5332.008	1" x 22	Copper pipe 22	DN 20
210.5333.004	1¼" x 22	Copper pipe 22	DN 25
210.5334.004	1¼" x 28	Copper pipe 28	DN 25

* Nickel-plated washer

SCREWS FOR MAPRESS PRESS FITTINGS

Comprises a stainless steel compression sleeve, cap nut and seal (set of three)

Order no.	G x mm	For	Fits
210.7103.000T	¾" x 15	Male thread	DN 15
210.7104.000T	1" x 22	Male thread	DN 20
210.7105.000T	1¼" x 28	Male thread	DN 25
210.7106.000T	1½" x 35	Male thread	DN 32

NOVAMIX STANDARD AND HIGH CAPACITY – REPLACEMENT PARTS

THERMAL ELEMENT WITH REGULATING PISTON

Order no.	Description
298.5263.000	20 – 40 °C for NovaMix Standard 40
298.5262.000	30 – 70 °C for NovaMix Standard 70/70 FR
298.5264.109	30 – 70 °C for NovaMix Standard 70 FS
298.5268.000	20 – 70 °C for NovaMix High Capacity 70

NOVAMIX COMPACT 70

DESCRIPTION

- Thermostatic mixing valve
- Continuously variable limiting of domestic water outlet temperature

ADVANTAGES

- Concealing structure directly underneath the washbasin
- Connected to the existing corner valve
- Bright nickel-plated
- Drinking water certification (SVGW) as well as TMV-2 and EN1111 (NovaMix Compact 50 TMV-2)
- Lime-resistant coating
- Built-in backflow preventer
- Closes tightly in the event of the cold water supply failing (anti-scald protection)
- Replaceable thermal element with piston

FUNCTIONS

- The mixing valve is supplied with hot water from a storage unit and with cold water from the piping network
- The temperature of the mixed water is recorded by the thermostatic expansion material element
- If the mixed water temperature diverges from the target value, the expansion material element moves the regulator piston, thus regulating the hot and cold water intake quantity accordingly, until the mixed water temperature matches the target value

TECHNICAL DATA

- Operating temperature $T_{0\,max}$: 90 °C
- Operating pressure:
- Max.: 10 bar
- Min.: 0.5 bar
- Adjustable temperature range:
  NovaMix Compact 70: 30 - 70 °C
  NovaMix Compact 50: 30 - 50 °C
- Temperature stability for mixing: max. 3 K
  (for change in hot water temperature: 15 K)
- Locking function in the event of failure of cold water supply
- Installation position: can be installed in any position

MATERIALS

- Housing: Brass, dezincification-resistant, nickel-plated
- Inner parts: Stainless steel, high-quality plastic
- Seals: EPDM

APPLICATIONS

- Constant mixing water temperature for sanitary applications in private and public areas directly at the outlet
- Anti-scalding protection at the outlet

NOVAMIX COMPACT 70 – MODELS

THERMOSTATIC MIXING VALVE

Order no.	DN	G	Control range	E (l/min)	k_{VS} (m^3/h)
252.6072.104	15	½"	30 – 70 °C	25	1,2

E = Volume obtained at Δp = 1,5 bar

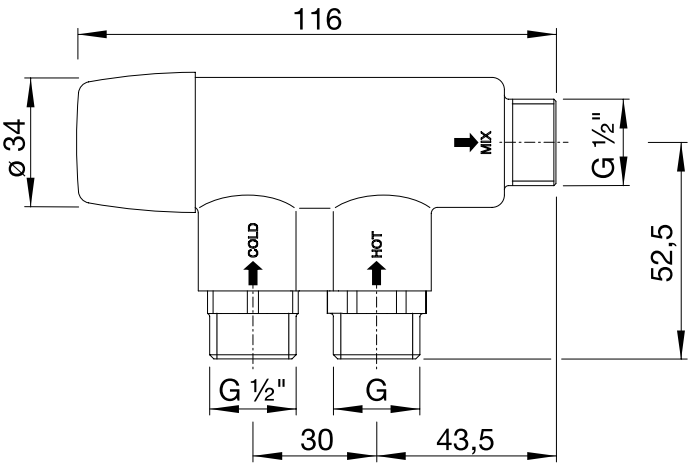
NOVAMIX COMPACT 50 TMV-2 – MODELS

THERMOSTATIC MIXING VALVE

Order no.	DN	G	Control range	E (l/min)	k_{VS} (m^3/h)
252.6073.107	15	½"	30 – 50 °C	23.7	1,42

E = Volume obtained at Δp = 1,0 bar

NOVAMIX COMPACT – DIMENSIONS



NOVAMIX COMPACT 70 – ACCESSORIES AND REPLACEMENT PARTS

FAST-REACTING PRECISION THERMOMETER, SENSOR TUBE NICKEL-PLATED

Fits ½"-T-piece (precision class 2.5 in the range 40 – 60 °C)

Order no.	R	Sensor length	Indication range
278.1002.000	½"	39 mm	0 – 80 °C

ADAPTER FOR FLAT SEALING SCREW CONNECTIONS (SET OF THREE)

Order no.
296.5223.004

SCREW CONNECTIONS FOR COPPER PIPE (CLAMP FITTING)

Order no.	G x mm	For
210.3222.000*	½" x 10	Copper pipe 10/1
210.3223.000*	½" x 12	Copper pipe 12/1
210.3225.000*	½" x 15	Copper pipe 15/1

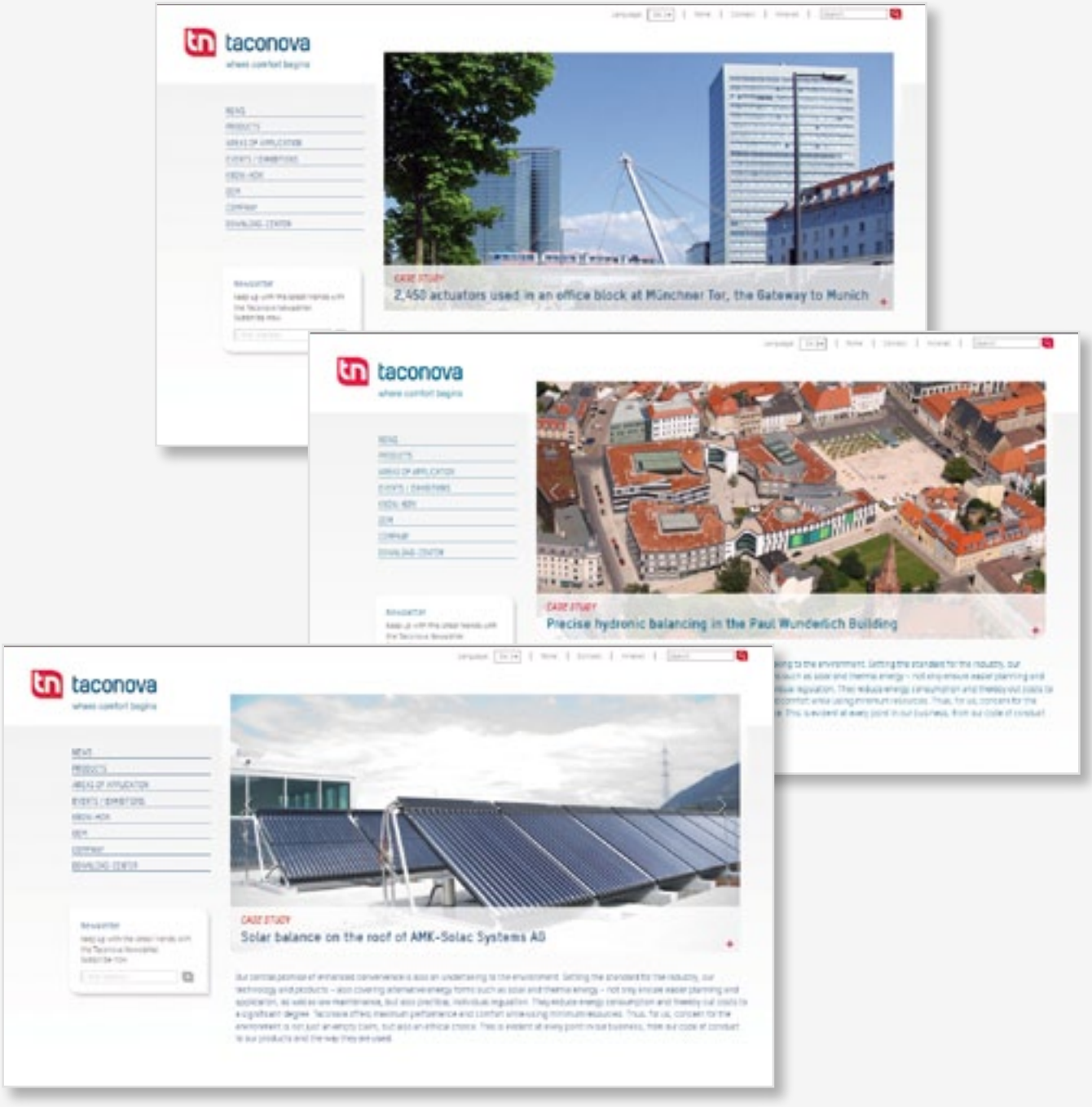
* Nickel-plated washer

THERMAL ELEMENT WITH REGULATING PISTON

Order no.	Description
298.5270.000	30 – 50 °C
298.5265.000	30 – 70 °C

CASE STUDIES

FIND OUT MORE ABOUT TACONOVA REFERENCE PROJECTS ON TACONOVA.COM.



SWITCHING WITH AN AUTOMATIC DRIVE

Motorized valves control the direction of flow of the medium by opening or closing the valve.

VERSATILE APPLICATIONS FOR RENEWABLE ENERGIES

The integration of renewable energies in the heating systems and the energy-efficient operation of heat generators, heat distributors, air conditioning and drinking water heaters pose major challenges to installation technology. Heating systems with multiple heat generators or that integrate renewable energies are becoming increasingly the norm, but require corresponding hydraulic circuits.

The areas of application of two and three-way motorized valves include, for example: switching the loading of solar storage units

- Storage tank loading in various temperature levels
- Increasing the return for biomass heating boilers
- Switching between storage tanks and heat generators
- Controlling different heat exchangers
- Switching between different storage systems

RAPID SWITCHING

The NovaZone Ball motorized ball valves and NovaZone Valve motorized valves feature short regulating times and a broad area of applications for automatic switching, opening and closing of hydraulic systems.

SWITCHING AND CONTROLLING SYSTEM HYDRAULICS

The opening, closing and switching processes are triggered by the NovaZone Ball motorized ball valves and NovaZone Valve motorized valves by means of a control contact (e.g. a thermostat or switch). The drives of the motorized ball valves are controlled by means of relays and only consume power for the opening and closing processes. On the motorized valve, the return to home position is achieved by means of a return spring (closed when off operating mode). The motorized ball valves in dimensions up to DN 100 offer a broad range of applications and are also approved for drinking water installations. These have an additional benefit for system automation thanks to potential-free auxiliary switches that can be used to output signal messages or control pumps, for example. The motorized ball valves and motorized valves can also be activated manually with a lever, which is supplied as part of the deliverables.

AUTOMATIC CONTROL AND SAFETY WHEN OPERATING THE SYSTEM

NovaZone Ball motorized ball valves and NovaZone Valve motorized valves enable automatic two-way or three-way control in heating, solar energy and cooling systems, as well as drinking water systems.

BENEFITS AT THE PLANNING STAGE

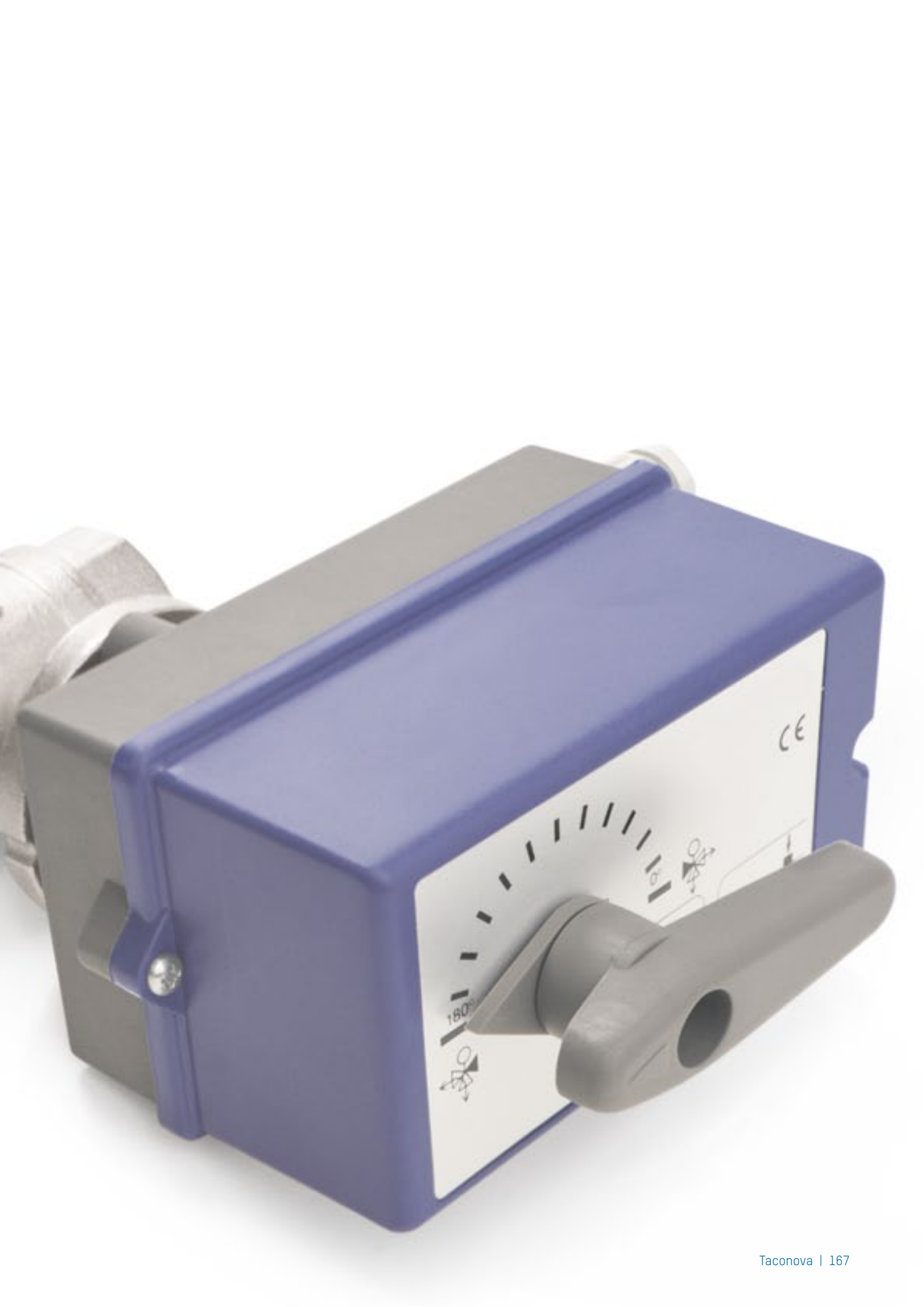
- Automatically operated two-way and three-way valves for switching the direction of flow in hydraulic systems
- System automation by means of potential-free auxiliary switches
- Short regulating times
- Power is only consumed for the opening and closing process
- Potential-free auxiliary switches for outputting signals and controlling pumps
- Drinking water quality approval for use in drinking water heating and hot water solar energy systems or for closing drinking water lines by remote control

BENEFITS AT THE INSTALLATION STAGE

- Universal motorized ball valves and motorized valves for heating, cooling and solar energy systems, as well as drinking water systems
- Motorized valves with automatic return to home position (closed when off operating mode)
- Manual adjustment of motorized ball valves and motorized valves up to DN 50
- Directly connectable by means of internal thread
- Valve setting is evident from the motor
- Low maintenance

MEASURED FLOW

Volume flows in hydraulic heating, solar energy, sanitary and cooling systems must be controlled and regulated. The easiest way to do this is to use the electric zone valves NovaZone Ball (motor-driven ball valve) and NovaZone Valve (motor-driven valve) from Taconova. Whether the valve has a 2-way or 3-way design, Taconova has the right valve for your application.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NOVAZONE BALL

DESCRIPTION

- Control of volume flows in HVAC systems ("OPEN/CLOSED" for 2-way valves and switching for 3-way valves); the valve can allow flows in both directions

ADVANTAGES

Automatically opens/closes/switches:

- Short actuation times
- Low on maintenance
- Drinking water certification

FUNCTIONS

- System parts or individual units are supplied with fluid or switched off depending on the switching criterion
- The ball valve is moved from its initial to its final position by means of a 1-pin control contact (thermostat, switch, etc.)
- Depending on the control contact, the valve rotates forwards or backwards until it reaches its final position
- In the case of an open control contact, the relay falls away and causes the direction to be reversed
- The ball valve cannot be held in an intermediate position

TECHNICAL DATA

2-way motor-driven ball valve:

- Drive with relay
- Up to 2", one auxiliary switch potential-free
- As of 2½", two auxiliary switches are potential-free
- As of 2½", limit switches acting as toggles are not potential-free
- Runtime: up to 2" = 45 s, 2 ½" and greater = 60 s
- Operating pressure: 10 bar
- Temperature of medium: -15 – 110 °C
- Angle of rotation: 90°
- Connections: Female thread

3-way motor-driven ball valve; same as 2-path valve except for the following:

- For 3", two auxiliary switches are potential-free
- For 3", limit switches acting as toggles are not potential-free
- Runtime: up to 2" = 90 s; 3" = 120 s
- Temperature of medium: -15 – 110 °C; DN 80 – 95 °C
- Angle of rotation: 180°

MATERIALS

- Ball valve: brass, nickel-plated
- Sealing seats: PTFE

APPLICATIONS

- Control of volume flows for different fluids in HVAC and drinking water systems

NOVAZONE BALL – MODELS

NOVAZONE BALL 2WAY

2-way motor-driven with relay; «OPEN/CLOSED» function with female thread
Operating temperature: -15 – 110 °C; operating pressure: 10 bar;
Ball valve: brass, nickel-plated; ball: brass, chrome-plated; seats: PTFE
Runtime: 45 s until DN 50; 60 s as of DN 65/angle of rotation: 90°

Order no. 230 V	DN	Rp	Auxiliary switch	Manual adjustment	k_{vs} (m³/h)
256.2172.999T	15	½"	1	Yes	30
256.2173.999T	20	¾"	1	Yes	55,6
256.2174.999T	25	1"	1	Yes	85
256.2175.999T	32	1 ¼"	1	Yes	120,5
256.2176.999T	40	1 ½"	1	Yes	240
256.2177.999T	50	2"	1	Yes	360
256.2178.999T	65	2 ½"	2	No	410
256.2179.999T *	80	3"	2	No	470
256.2180.999T *	100	4"	2	No	866

Order no. 24 V	DN	Rp	Auxiliary switch	Manual adjustment	k_{vs} (m³/h)
256.2072.999T	15	½"	1	Yes	30
256.2073.999T	20	¾"	1	Yes	55,6
256.2074.999T	25	1"	1	Yes	85
256.2075.999T	32	1 ¼"	1	Yes	120,5
256.2076.999T	40	1 ½"	1	Yes	240
256.2077.999T	50	2"	1	Yes	360

Silicone-free model available on request
* 8-week delivery time

NOVAZONE BALL 3WAY

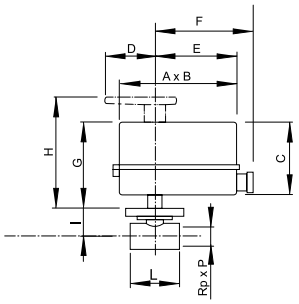
3-way motor-driven with relay; switching function with female thread
Operating temperature: -15 – 110 °C; operating pressure: 10 bar;
Ball valve: brass, nickel-plated; ball: brass, chrome-plated; seats: PTFE
Runtime: 90 s until DN 50,120 s as of DN 80 (operating temperature: 95 °C)/angle of rotation: 180°

Order no. 230 V	DN	Rp	Auxiliary switch	Manual adjustment	k_{vs} (m³/h)
256.3172.999T	15	½"	1	Yes	6,5
256.3173.999T	20	¾"	1	Yes	10,5
256.3174.999T	25	1"	1	Yes	16,5
256.3175.999T	32	1 ¼"	1	Yes	27,2
256.3176.999T	40	1 ½"	1	Yes	47,3
256.3177.999T	50	2"	1	Yes	73
256.3178.999T *	80	3"	2	No	177,5

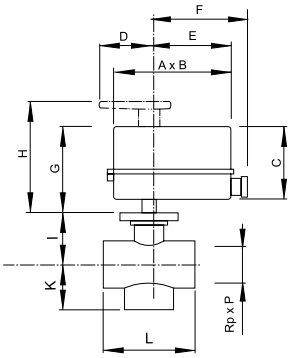
Order no. 24 V	DN	Rp	Auxiliary switch	Manual adjustment	k_{VS} (m³/h)
256.3072.999T	15	½"	1	Yes	6,5
256.3073.999T *	20	¾"	1	Yes	10,5
256.3074.999T	25	1"	1	Yes	16,5
256.3075.999T	32	1¼"	1	Yes	27,2
256.3076.999T *	40	1½"	1	Yes	47,3
256.3077.999T	50	2"	1	Yes	73

Silicone-free model available on request
Ball valves with all three connections/outlets in horizontal design available on request
* 8-week delivery time

NOVAZONE BALL – DIMENSIONS



NovaZone Ball 2way



NovaZone Ball 3way

2WAY

DN	Rp x P	A x B	C	D	E	F	G	H	I	L
15	½" x 14	130 x 73	84	55	90	110	100	129	41	56
20	¾" x 16	130 x 73	84	55	90	110	100	129	45	66
25	1" x 16	130 x 73	84	55	90	110	100	129	49	76
32	1¼" x 18	130 x 73	84	55	90	110	100	129	61	86
40	1½" x 19	130 x 73	84	55	90	110	100	129	66	97
50	2" x 20	130 x 73	84	55	90	110	100	129	72	112
65	2½" x 22	168 x 95	107	–	76	102	145	–	103	141
80	3" x 25	168 x 95	107	–	76	102	145	–	114,5	159
100	4" x 28	168 x 95	107	–	76	102	145	–	145	190

3WAY

DN	Rp x P	A x B	C	D	E	F	G	H	I	L	K
15	½" x 14	130 x 73	84	55	90	110	100	129	41	56	30
20	¾" x 16	130 x 73	84	55	90	110	100	129	45	66	35
25	1" x 17	130 x 73	84	55	90	110	100	129	49	75	40
32	1¼" x 23	130 x 73	84	55	90	110	100	129	61	100	54
40	1½" x 24	130 x 73	84	55	90	110	100	129	66	110	61
50	2" x 28	130 x 73	84	55	90	110	100	129	72	130	73
80	3" x 33	168 x 95	107	–	76	102	145	–	105	197	108

NOVAZONE BALL – REPLACEMENT PARTS

DRIVE FOR NOVAZONE BALL 2WAY

Order no.	Fits	Manual adjustment	Voltage
298.5625.999T	Up to 2"	Yes	230 V
298.5626.999T	As of 2,5"	No	230 V
298.5627.999T	Up to 2"	Yes	24 V

BALL VALVE FOR NOVAZONE BALL 2-WAY; FEMALE THREAD

Order no.	DN	Rp
298.5662.999T	15	½"
298.5663.999T	20	¾"
298.5664.999T	25	1"
298.5665.999T	32	1¼"
298.5666.999T	40	1½"
298.5667.999T	50	2"
298.5668.999T	65	2½"
298.5669.999T	80	3"
298.5670.999T	100	4"

DRIVE FOR NOVAZONE BALL 3WAY

Order no.	Fits	Manual adjustment	Voltage
298.5635.999T	Up to 2"	Yes	230 V
298.5636.999T	As of 2,5"	No	230 V
298.5637.999T	Up to 2"	Yes	24 V

BALL VALVE FOR NOVAZONE BALL 3-WAY; FEMALE THREAD

Order no.	DN	Rp
298.5672.999T	15	½"
298.5673.999T	20	¾"
298.5674.999T	25	1"
298.5675.999T	32	1¼"
298.5676.999T	40	1½"
298.5677.999T	50	2"
298.5678.999T	80	3"

NOVAZONE VALVE

DESCRIPTION

- Zone valve with electromotive drive and spring return
- Control in HVAC systems ("OPEN/CLOSED" for 2-way valves and switching for 3-way valves)
- Fluids move only in the flow direction

ADVANTAGES

- Short actuation times
- Robust
- Low on maintenance
- Drinking water certification
- With lever for manual operation
- Visible valve setting
- For water and glycol/water mixtures

FUNCTIONS

- System parts or individual units are supplied with fluid or switched off depending on the switching criterion
- The valve body is moved from its initial to its final position by means of a 1-pin control contact (thermostat, switch, etc.)
- The valve is returned to its initial position voltage-free by means of a return spring
- The zone valve cannot be held in an intermediate position

TECHNICAL DATA

Drive:

- Operating mode: normally closed
- Ambient temperature: up to 60 °C
- Operating temperature: 5 – 110 °C
- Operating pressure $P_{0\,max}$: 10 bar
- Operating power: 230 V, 50 Hz (± 10 %)/24 V
- Power consumption: approx. 5 – 6 W
- Protection type: IP 20
- CE conformance
- Cable length: 1 m
- Opening times (with motor):
  - Through valve: approx. 10 s; switching valve: approx. 20 s
- Closing times (with spring):
  - Through valve: approx. 4 s; switching valve: approx. 6 s
- Ambient temperature: max. 60 °C

Valve body:

- Temperature of medium: 5 – 110 °C for standard and drinking water model
- Temperature of medium: 5 – 120 °C (briefly: 150 °C) at high temperature
- Shaft seal: stuffing box seal provided by two successive O-ring seals
- Operating temperature $T_{0\,max}$: 110 °C
- Operating pressure $P_{0\,max}$: 10 bar

MATERIALS

- Valve housing: brass
- Valve cone and ball: EPDM

APPLICATIONS

- Control of volume flows for different fluids in HVAC and drinking water systems

NOVAZONE VALVE 2WAY – MODELS

2-WAY STANDARD-ZONE VALVE

«OPEN/CLOSED» function; $T_{0\,max}$: 110 °C; $P_{0\,max}$: 10 bar; Δp max. (bar) 0,902

Order no. 230 V	Order no. 24 V	DN	Rp	k_{VS} (m³/h)
256.5242.999T	256.5442.999T	15	½"	6
256.5243.999T	256.5443.999T	20	¾"	7
256.5244.999T	256.5444.999T	25	1"	9

Available on request: with male thread / with auxiliary switch

2-WAY HIGH-TEMPERATURE ZONE VALVE

«OPEN/CLOSED» function, $T_{0\,max}$: 120 °C (briefly 150 °C), $P_{0\,max}$: 10 bar, Δp max. (bar) 0,902

Order no. 230 V	DN	Rp	k_{VS} (m³/h)
256.5642.999T	15	½"	6
256.5643.999T	20	¾"	7
256.5644.999T	25	1"	9

2-WAY DRINKING WATER ZONE VALVE

«OPEN/CLOSED» function, $T_{0\,max}$: 110 °C, $P_{0\,max}$: 10 bar, Δp max. (bar) 0,902

Order no. 230 V	DN	Rp	k_{VS} (m³/h)
256.5842.999T	15	½"	6
256.5843.999T	20	¾"	7
256.5844.999T	25	1"	9

NOVAZONE VALVE 3WAY – MODELS

3-WAY STANDARD ZONE VALVE

Switching function, $T_{0\,max}$: 110 °C, $P_{0\,max}$: 10 bar

Order no. 230 V	Order no. 24 V	DN	Rp	k_{VS} (m^3/h)	Δp max. (bar)
256.5342.999T	256.5542.999T	15	½"	6,6	1,540
256.5343.999T	256.5543.999T	20	¾"	7,8	1,540
256.5344.999T	256.5544.999T	25	1"	12,6	0,618

Available on request: with male thread / with auxiliary switch

3-WAY HIGH-TEMPERATURE ZONE VALVE

Switching function, $T_{0\,max}$: 120 °C (briefly 150 °C), $P_{0\,max}$: 10 bar

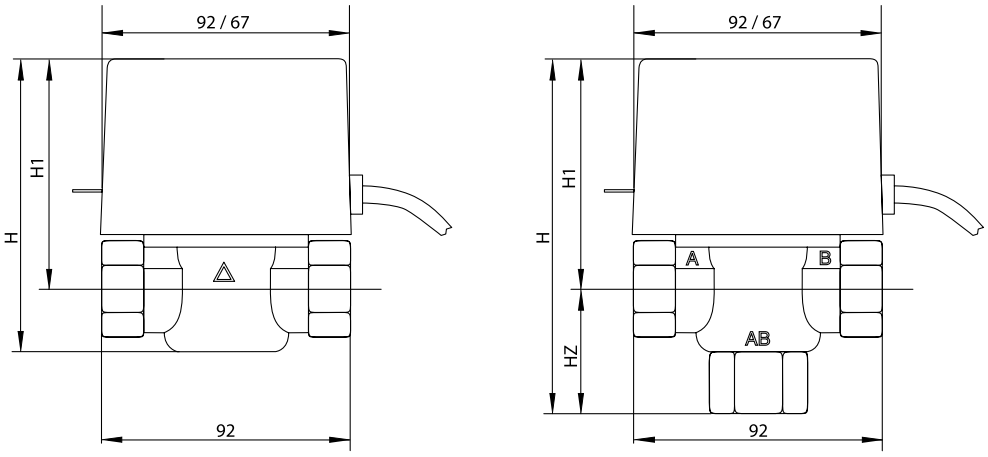
Order no. 230 V	DN	Rp	k_{VS} (m^3/h)	Δp max. (bar)
256.5742.999T	15	½"	6,6	1,540
256.5743.999T	20	¾"	7,8	1,540
256.5744.999T	25	1"	12,6	0,618

3-WAY DRINKING WATER ZONE VALVE

Switching function, $T_{0\,max}$: 110 °C, $P_{0\,max}$: 10 bar

Order no. 230 V	DN	Rp	k_{VS} (m^3/h)	Δp max. (bar)
256.5942.999T	15	½"	6,6	1,540
256.5943.999T	20	¾"	7,8	1,540
256.5944.999T	25	1"	12,6	0,618

NOVAZONE VALVE 2WAY/3WAY – DIMENSIONS



Fits	H	H1	H2
All DN 15 2-way through valves	105	85	20
All DN 20 2-way through valves	105	85	20
All DN 25 2-way through valves	105	85	20
All DN 15 3-way through valves	130	84	46
All DN 20 3-way through valves	130	84	46
All DN 25 3-way through valves	134	88	46

COMBINED VALVE FOR THE BOILER PROVIDES VENTILATION AND PROTECTS AGAINST OVERPRESSURE

Boiler valve groups take over the functions of technical safety equipment on boilers.

SAFETY STANDARD

The safety equipment on boilers includes a safety group for the ventilation, pressure monitoring and pressure display functions. The Tri-Bloc safety group unites four functions in a single valve:

- Continuous and automatic ventilation
- Blowing off overpressure
- Displaying the pressure
- Providing a connection for an expansion vessel or KFE spigot

CONNECTION-READY SAFETY GROUP

The Tri-Block combination valve consists of a brass valve carrier with safety valve (blow-off pressure 2.5 or 3 bar) a TacoVent HyVent rapid ventilator and a manometer with self-sealing screw connector. The Tri-Bloc also has two additional screw connectors for an expansion vessel (R ¾") and a filling spigot (Rp ½").

FLOAT-CONTROLLED VENTILATING VALVE

The TacoVent HyVent ventilating valve has a float on the surface of the water that holds the ventilating bore tightly closed by means of a valve needle. When air collects in the boiler, the float is lowered as the water level drops, opening the air outlet. An integrated automatic closure enables the float-based ventilating valve to be replaced under system pressure.

COMBINATION VALVE FOR EVERY INSTALLATION POSITION

The highlight of the Tri-Bloc safety valve group is the multi-connection system, which permits several different installation positions and therefore helps avoid time-consuming installation work with additional fittings:

- Thanks to the rotating screw connector, the safety valve can be turned in the required direction.
- The ventilating valve can be connected to the valve body in several different variants, so that this can be installed vertically in any installation position without requiring additional angled components.
- The manometer with self-sealing thread can either be fitted on the side or on the front.

COMPACT SAFETY VALVE

The Tri-Bloc boiler safety group unites the required safety valves in a single valve body, saving time during installation.

BENEFITS AT THE PLANNING STAGE

- Combination valve as technical safety equipment for boilers
- Ready-assembled and tested safety fitting for ventilation, pressure monitoring and pressure display with safety valve approved by the TÜV Technical Control Association
- Additional screw connection for expansion vessel and KFE Spigot
- Automatic and permanent ventilation

BENEFITS AT THE INSTALLATION STAGE

- Time-saving installation without additional fittings thanks to multiple connection system
- Flexibility for different installation situations thanks to variable connection options
- Rapid ventilation when filling the system
- Easy control of the system filling pressure
- Float-based ventilating valve can be replaced under system pressure
- Rotating safety valve
- Self-sealing connections

MULTIFUNCTIONAL

The TriBloc is a compact safety group for heating systems. It combines different functions in a single valve: bleeding, ventilation, pressure indication and pressure reduction by blowing. Expansion vessels or fill/drain valves can be directly connected to the TriBloc.


0
bar

TRIBLOC

DESCRIPTION

- Continuous and automatic bleeding and ventilation with the TacoVent HyVent
- Pressure indication
- Release of excess pressure

ADVANTAGES

- Four functions combined in one valve
- Connections of components self-sealing
- Manometer and TacoVent HyVent with automatic locking system
- Connection provided for expansion vessel or fill/drain valve
- Extremely compact
- Safety valve (TÜV-approved), rotatable
- Manometer can be mounted at front or side
- Valve group installed and inspected as ready to use

FUNCTIONS

- In this safety group, a float-controlled valve opens with increasing air volume to continuously release the air collected in the vessel
- A connection channel routes the water and air smoothly into the air chamber
- Pressure levels are indicated on the manometer and excess pressure is released through the safety valve (systems can be ventilated during emptying)

TECHNICAL DATA

- Operating temperature $T_{0\,max}$: 100 °C
- Operating pressure $P_{0\,max}$: 10 bar
- Response pressure: 2.5 bar or 3 bar (depending on model)
- For heating systems up to 50 kW (as per DIN 4751)
- Additional connections. ¾" AG and ½" IG

MATERIALS

- Valve-and-fittings support, TacoVent HyVent, safety valve: brass
- Valve spring: stainless steel
- Membrane: elastomer

APPLICATIONS

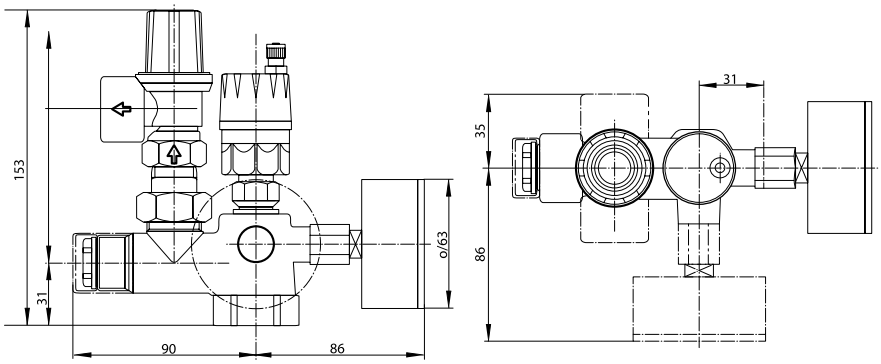
- Safety valve and accessories group for heating systems in the power range up to 50 kW (DIN 4751)

TRIBLOC – MODELS

SAFETY GROUP

Order no.	DN	Rp	Exhaust pressure of safety valve (bar)
232.1225.000	25	1"	2,5
232.1230.000	25	1"	3

TRIBLOC – DIMENSIONS



TRIBLOC – ACCESSORIES AND REPLACEMENT PARTS

INSULATION BOX

EPP, T_B -30 °C – 100 °C

Order no.	Fits
296.7019.000	232.1225.000, 232.1230.000

MANOMETER, SELF-SEALING WITH O-RING

Order no.	R	Indication range
278.2001.000	¼"	0 – 4 bar

AUTOMATIC LOCKING SYSTEM FOR MANOMETER, SELF-SEALING WITH O-RING

$T_{0\,max}$: 100 °C, $P_{0\,max}$: 10 bar

Order no.	Rp x R	Fits
220.3200.000	¼" x ¼"	278.2001.000

SAFETY VALVE ½" X ¾" WITH ROTATABLE CONNECTION ¾", CONICALLY-SEALING

Order no.	DN	Rp x G	Exhaust pressure of safety valve (bar)
230.8321.204	15	¾" x ¾"	2,5
230.8321.205	15	¾" x ¾"	3

AIR IN HYDRAULIC SYSTEMS

Air trapped in pipe systems should not be underestimated as a waste of energy. Operating safety and comfort mean that air pockets should be drained in all closed-cycle systems.

AIR REDUCES COMFORT

Air trapped in heating system reduces heating comfort, impedes circulation and reduces energy efficiency. Air pockets and released gases gather at high points or around diversions that represent the highest point in a given section of pipe. One example of this can be found in long, horizontal lengths of pipe with a downward change of direction. Air gathers around the area of the diversion and thus impedes flow.

IT IS ALMOST IMPOSSIBLE TO PREVENT THE ENTRY OF AIR

There are different reasons why air enters heating and plumbing systems and why gases are released. This can result from underpressure on the intake side of the circulating pump, for example, or can happen if the system filling pressure is too low, when air is drawn into the pipe system because connections (such as screw connections) are not absolutely air-tight.

Another cause is the change in temperature when the heating water heats up and radiates heat, casing soluble gases in the water to be released. This means that there is a high concentration of air and gas freshly driven from the water at the outlet of the heat flow in the boiler circuit after water has been heated.

VENTILATOR HOUSING FOR HORIZONTAL AND VERTICAL PIPELINES

In order effectively to remove air and released gases from long pipe networks with a large capacity, special air separator housings aid the air and water separation process. The design of the TacoVent Airscoop Horizontal and Airscoop Vertical housing means that the flow is guided in such a way that the air bubbles rise and the accumulated air can be released via the integrated ventilation valves.

REMOVING ACCUMULATED AIR FROM BOILERS, TANKS AND DISTRIBUTORS

Float ventilating valves are used to remove the air from parts of systems such as boilers, storage tanks and the highest points of distribution and connecting lines. The ventilating valve has a float on the surface of the water that holds the ventilating bore tightly closed. When air collects, the float is lowered as the water level drops, opening the air outlet.

AUTOMATIC VENTILATION FUNCTION

There is an expandable membrane in the valve insert of the TacoVent Vent automatic ventilating valve that dries when it comes in contact with air, thus becoming air-permeable. As soon as the air has escaped from the radiator and the membrane is once again comes in contact with hot water, the membrane immediately expands again, preventing water from escaping.

AIR IN THE SOLAR ENERGY CIRCUIT PREVENTS UNIMPEDED CIRCULATION

When a solar thermal system is commissioned and filled for the first time, the trapped air needs to be removed: eddying as the solar liquid flows in can cause air to be absorbed which is only gradually released again during operation. Air and gases are also released during operation due to the occasional evaporation of the anti-freeze mixture. Air in the solar energy system impedes circulation or even blocks it entirely, reducing the solar yield and thus also causing the anti-freeze mixture to age prematurely.

AUTOMATIC VENTILATION FOR SMOOTH SYSTEM OPERATION

In heating, plumbing and solar energy systems, ventilating valves from Taconova can be used to automatically vent trapped air from the system components and pipes even in inaccessible areas.

BENEFITS AT THE PLANNING STAGE

- The range covers all areas where venting is required in heating, plumbing and solar energy systems
- Operating security through the automatic closure of ventilating valves
- Optimization of operating costs through energy saving
- Safe and permanent ventilation in all installation situations
- Constant heat output from radiators and panel heating systems
- In buildings, the ventilating valves save on the maintenance effort involved in venting radiators, distributors, pipelines and collector circuits

BENEFITS AT THE INSTALLATION STAGE

- Maintenance-free ventilation of those parts of a building's system that can only be accessed with difficulty
- Improved work safety when commissioning and servicing solar thermal systems through venting at the solar station
- Prevents irritating noisy radiators

AUTOMATIC AIR ELIMINATION

The proven automatic TacoVent ventilators reliably remove unwanted air from heating systems. They increase efficiency and subsequently reduce energy consumption and operating costs. Regardless of whether radiators or systems are ventilated, whether horizontally or vertically installed, Taconova provides the ideal solution.

TACOVENT VENT

DESCRIPTION

- Automatic, continuous ventilation of water-guiding systems

ADVANTAGES

- Saves energy
- Reliable and long-lasting functionality
- Fast manual ventilation
- Integrated automatic locking system for simple replacement of the valve insert
- No annoying heating gurgling noises
- No displacement of furniture

FUNCTIONS

- The automatic function of the air vent is based on the expansion ability of disks in the valve insert
- In dry condition, the expansion disks allow air and gas to escape
- Water is prevented from escaping by the immediate expansion
- Fast manual ventilation is performed by loosening the knurled screw to allow air and gas to escape; systems can be quickly filled thanks to the high rate of ventilation
- Thanks to a rebound mechanism integrated into the ventilator, the entire valve insert can be easily replaced under pressure
- A few drops of water may escape when taking the system into operation for the first time, but this no longer occurs during operation

TECHNICAL DATA

- Nominal diameters:
  - ⅛" to ⅜"
  - ½" self-sealing with O-ring and rotatable water outlet ring
- Operating temperature $T_{0\,max}$: 115 °C
- Operating pressure $P_{0\,max}$: 8.5 bar
- Flow media: water free of chemical additives

MATERIALS

- Housing and valve insert: brass, nickel-plated
- Rebound mechanism: stainless steel
- Seals: silicone, EPDM

APPLICATIONS

- Use in water-guiding systems, for automatic and continuous ventilation of radiators, pipe matrices, piping, boilers, vessels and underfloor heating distribution systems

TACOVENT VENT – MODELS

TACOVENT VENT

Order no.	DN	G
240.5417.000	6	⅛"
240.5418.000	8	¼"
240.5419.000	10	⅜"

TACOVENT VENT

Self-sealing at the thread with 0-ring, brass, nickel-plated

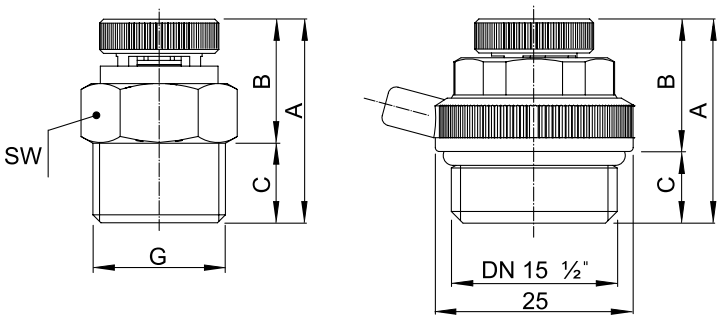
Order no.	DN	G
240.5420.000	15	½"

TACOVENT VENT – REPLACEMENT PARTS

VALVE INSERT

Order no.	Description
298.4001.000	Complete, including silicone seal

TACOVENT VENT – DIMENSIONS



Order no.	G	A	B	C	SW
240.5417.000	⅛"	26	16	10	14
240.5418.000	¼"	26	16	10	14
240.5419.000	⅜"	26	16	10	17
240.5420.000	½"	26	17	9	19

TACOVENT HYVENT

DESCRIPTION

- Automatic, continuous ventilation and bleeding of water-guiding systems, such as heating, air-conditioning and sanitary units

ADVANTAGES

- Compact design
- Maximum ventilation performance
- Automatic ventilation of systems during filling and in operation
- Automatic ventilation of systems when emptying
- Simple replacement of the TacoVent HyVent in combination with the automatic locking system
- Drinking water certification

FUNCTIONS

- A float-controlled valve opens with increasing air volume to continuously release the air collected in the vessel
- The combination with a preceding TacoVent AirScoop ensures efficient separation of the air/water mixture, and supports fast, effective gas removal by the TacoVent HyVent
- The self-sealing automatic locking system prevents water from escaping from the piping system when dismantling the float ventilator

TECHNICAL DATA

- Operating temperature $T_{0\,max}$: 115 °C
- Operating pressure $P_{0\,max}$: 10 bar
- Male thread: G ⅜" and G ½" according to ISO 228

MATERIALS

- Housing: brass
- Float: plastic

APPLICATIONS

- Float ventilator for permanent automatic ventilation of HVAC systems

TACOVENT HYVENT – MODELS

TACOVENT HYVENT

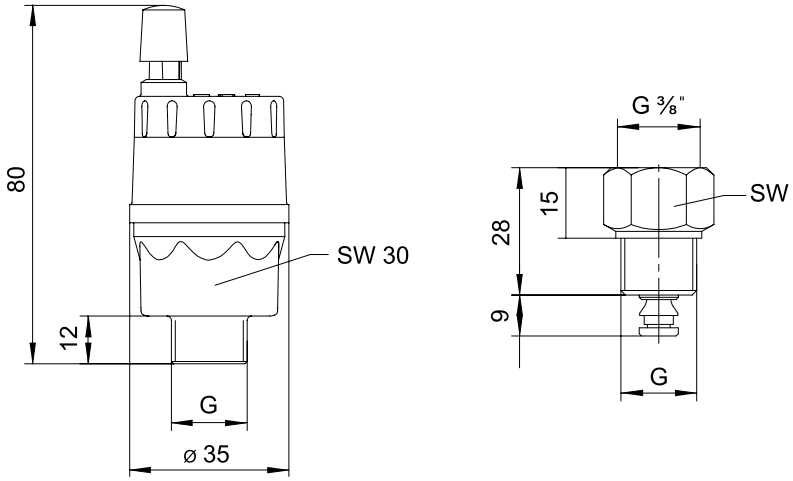
Order no.	DN	G	Model
242.5072.001	10	⅜"	Without automatic locking system
242.5072.002	10	⅜"	With automatic locking system ⅜"
242.5072.021	10	⅜"	With automatic locking system ½"

TACOVENT HYVENT – ACCESSORIES

AUTOMATIC LOCKING SYSTEM, SELF-SEALING ON FEMALE THREAD

Order no.	DN	Rp x G	Fits
220.5235.000	10	⅜" x ⅜"	242.5072.001/242.5072.002
220.5236.000	10	⅜" x ½"	242.5072.001/242.5072.021

TACOVENT HYVENT AND AUTOMATIC LOCKING SYSTEM DIMENSIONS



TACOVENT AIRSCOOP HORIZONTAL/VERTICAL

DESCRIPTION

- Horizontal model: continuous air separation and automatic ventilation in combination with the float ventilator HyVent
- Vertical model: permanent air separation of the air collecting in the system

ADVANTAGES

- High ventilation performance
- Robust, nonsensitive design
- No maintenance required
- Connections for ventilator, safety valve or thermometer

FUNCTIONS

- The horizontal model of the AirScoop is installed directly in a pipe after the heat generator; the largest concentration of air and gases just expelled from the water is found in this pipe
- The expansion taking place inside the AirScoop and the turns built into the interior accelerate the separation process between air and water
- The flow diversion in the housing enables the air bubbles in the air collection dome to rise; the air cushion can then escape from the hydraulic system by means of a connected ventilator
- In combination with the float ventilator HyVent, this system ensures air separation and ventilation; the separation performance is increased by a calming section in the form of a straight piece of piping that is about 0.5 m long
- The vertical AirScoop model is installed in vertical pipes; the air that is separated from the medium and collected in the bottle can be sporadically emitted through the ventilation valve

TECHNICAL DATA

Horizontal model

- Thread connection: DN 20 – DN 80
- Flange connection: DN 100
- Operating temperature $T_{0\,max}$: 115 °C
- Operating pressure $P_{0\,max}$: 10 bar

Vertical model

- Operating temperature $T_{0\,max}$: 160 °C
- Operating pressure $P_{0\,max}$: 8 bar
- External thread connection: 1"

MATERIALS

- Horizontal model: grey iron, coated with GG25
- Vertical model: steel, black, stove-enamelled

APPLICATIONS

- Horizontal model: used primarily in large heating systems (for district heating)
- Vertical model: used in heating and solar thermal systems

TACOVENT AIRSCOOP HORIZONTAL/VERTICAL – MODELS

AIRSCOOP HORIZONTAL

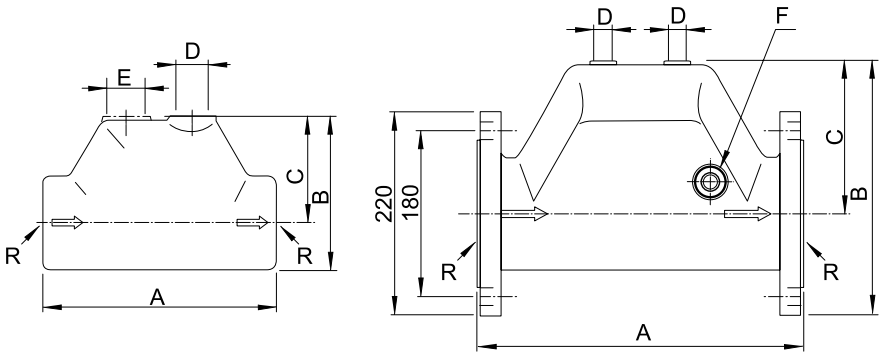
Order no.	DN	Rp	No. of connections for HyVents	Zeta	k_V (m³/h)
243.5001.000	20	¾"	1	1,1	17,1
243.5002.000	25	1"	1	1	28,8
243.5003.000	32	1¼"	1	1	50,4
243.5004.000	40	1½"	1	1,1	64,4
243.5005.000	50	2"	1	0,84	114
243.5006.000	65	2½"	1	0,67	237
243.5007.000	80	3"	2	0,88	287

Order no.	DN	Flange PN 16	No. of connections for HyVents	Zeta	k_V (m³/h)
243.5008.000	100	8 x Ø18	2	0,83	439

AIRSCOOP VERTICAL

Order no.	DN	G	k_V (m³/h)
296.7043.000	25	1"	11,5

AIRSCOOP HORIZONTAL – DIMENSIONS



Order no.	R	A	B	C	D	E	F
243.5001.XXX	Rp ¾"	110	69	48	Rp ⅜"	–	–
243.5002.XXX	Rp 1"	120	79	55	Rp ⅜"	–	–
243.5003.XXX	Rp 1¼"	140	93	64	Rp ⅜"	–	–
243.5004.XXX	Rp 1½"	160	96	64	Rp ⅜"	–	–
243.5005.XXX	Rp 2"	228	120	80	Rp ⅜"	–	–
243.5006.XXX	Rp 2½"	235	144	95	Rp ⅜"	–	–
243.5007.XXX	Rp 3"	267	184	127	Rp ⅜"	Rp ⅜"	
243.5008.XXX	DN100	350	274	164	Rp ⅜"	–	Rp ½"

AIRSCOOP VERTICAL – DIMENSIONS

Length: 301 mm (bottle: 264 mm)
Diameter: 60.3 mm

AIRSCOOP HORIZONTAL – ACCESSORIES AND REPLACEMENT PARTS

TACOVENT HYVENT

Order no.	DN	G	Model
242.5072.001	10	⅜"	Without automatic locking system ⅜"
242.5072.002	10	⅜"	With automatic locking system ⅜"
242.5072.021	10	⅜"	With automatic locking system ½"

AUTOMATIC LOCKING SYSTEM FOR TACOVENT HYVENT

Order no.	DN	G	SW	Fits
220.5235.000	10	G ⅜"	19	242.5072.001
220.5236.000	10	G ½"	21	242.5072.001

FLOW CONTROL AND TEMPERATURE MEASUREMENT IN ANY INSTALLATION POSITION

A display is often required to enable flow and/or temperature values to be checked in hydraulic systems, without a regulating option also being necessary.

FLOW CONTROL IN ANY INSTALLATION POSITION

The TacoControl FlowMeter flow measuring instrument shows the volume flow of the flowing medium and is used in heating, cooling and plumbing systems to check the flow rate.
The meter's compact design allows it to be installed in even the most constricted spaces. Any installation position is possible – all that really matters is the direction of flow.

DIRECT DISPLAY

The calibrated scale printed on the inspection window enables the flow rate to be read directly in l/min without requiring complex meters and counters directly on the consumer, on distributors or in sections of systems.

ELECTRONIC FLOW AND TEMPERATURE MEASUREMENT FOR THE PROVISION OF DATA

If temperature values are also required in addition to the flow values, the TacoControl Tronic balancing and shutoff valve determined the values required for control and regulation.

ELECTRONIC DETERMINATION OF FLOW RATE AND TEMPERATURE

TacoControl Tronic measures the flow rate and temperature of the medium with an electronic flow and temperature sensor that has no moving parts. The initial signals can be used to control and monitor pumps and valves or to measure heat.

FUNCTION IRRESPECTIVE OF THE INSTALLATION POSITION

The balancing and shutoff valve is based on the TacoSetter Inline balancing valve. A 1" union nut is used to connect the valve body, nominal size DN 20, directly to a flush sealing screw connector, for example to the intake connectors of a pump housing, in any installation position.

EXPANDABLE TO FORM A BALANCING VALVE

In combination with the TacoSetter Inline balancing valve, the function of both flow meters can be extended to produce a regulating and shutoff valve

FUNCTION MONITORING IN HYDRAULIC SYSTEMS

The measurement valves enable flow rates to be recorded and the signals from the TacoControl Tronic also to be used to control pumps and valves.

BENEFITS AT THE PLANNING STAGE

- Measuring valve for the simultaneous measurement of the flow rate and medium temperature (TacoControl Tronic)
- High measurement precision
- Short response time
- TacoControl Tronic determines output signals for flow and temperature to control pumps or switching valves in accordance with the medium temperature and flow rate
- Can be expanded with a controller to measure heat

BENEFITS AT THE INSTALLATION STAGE

- Can be installed in any position
- Can be combined with TacoSetter Inline balancing valve
- Can be installed in heating, cooling, solar and drinking water systems, including heat measurement

DIGITAL MODEL

The TacoControl Tronic is valve designed purely for measuring purposes. It features a sensor for digital measurement of flow and temperature. Temperature and flow volumes – from 1.3 to 100 l/min – are measured without any moving parts. The valve is typically used in combination with the balancing valve TacoSetter Inline.

TACOCONTROL TRONIC

DESCRIPTION

- Flow and temperature sensors
- Digital flow and temperature measurement in combination with a TacoSetter Inline

ADVANTAGES

- Flow measurement from 1.3 – 100 l/min
- Two linear voltage signals for volume flow and temperature
- Ideal combination product for TacoSetter Inline

FUNCTIONS

- Flow measurement based on the vortex principle: a flow element introduced into the pipe causes periodic eddying to occur on each side of the element's sides; these vortice's are propagated through the pipe and lead to periodic fluctuations in pressure that can be measured by the differential pressure sensor
- Formatting circuitry converts the pressure value to a signal that varies proportionally to the volume of water flowing through the pipe

TECHNICAL DATA

- Measuring accuracy
  - Flow rate: 0.3 l/min (at 0 – 100 °C), response time: < 1 s
  - Temperature: ± 2 °C (at 0 – 100 °C), ± 1 °C (at 25 – 80 °C), response time: < 2 s
- Power supply: 5 V DC (± 5 %), PELV
- Output signals: ratiometric – i.e., proportional to use
- Flow signal: 0.35 – 3.5 V, proportional to the measurement range
- Temperature signal: 0.5 – 3.5 V, proportional to the temperature range
- Recommended bushing: FCI, p/n 90312-004
- Minimum temperature of the water:
  - Sensor remains in operation: 0 °C
  - Sensor is not destroyed: -25 °C
- Highest temperature of the water:
  - Sensor remains in operation: 110 °C
  - Sensor is not destroyed: 120 °C
- Maximum constant system pressure: 10 bar
- Ambient conditions:
  - Minimum temperature of the air: -25 °C
  - Maximum constant air temperature: 60 °C
  - Maximum temporary air temperature: 90 °C
- Protective class: IP44a

MATERIALS

- Housing: polyamide

APPLICATIONS

- Heating systems in general
- Transfer/separation stations
- Heat pumps
- Other

FLOW MEDIA

- Water mixtures with typical corrosion and glycol additives
- Hot water
- Cooling water
- Drinking water (WRAS, ACS-certified)

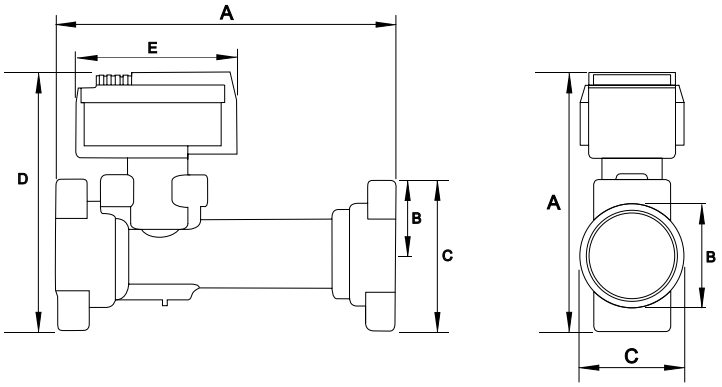
TACOCONTROL TRONIC – MODELS

ELECTRONIC FLOW AND TEMPERATURE SENSOR

$T_{O\,max}$: 100 °C , $P_{O\,max}$: 10 bar, functions with TacoSetter Inline 100

Order no.	DN	Thread	Fits	Range (l/min)
298.5607.000T	10	Screw connection	Female thread DN 15	1,3 – 20
298.5608.000T	12	Screw connection	Male thread DN 20	2 – 40
298.5609.000T	12	Male thread	Female thread DN 40	5 – 100

TACOCONTROL TRONIC – DIMENSIONS



Order no.	DN	A	A + screw connection	B	C	D	E
298.5607.000T	10	82	126	18	36	57	39,4
298.5608.000T	12	88	132	19	38	59	39,4
298.5609.000T	12	129	–	16	32	57	39,4

TACOCONTROL TRONIC – ACCESSORIES AND REPLACEMENT PARTS

HEAT QUANTITY METER WMC 1

Flow measurements, heat quantity metering

Order no.
296.7017.000

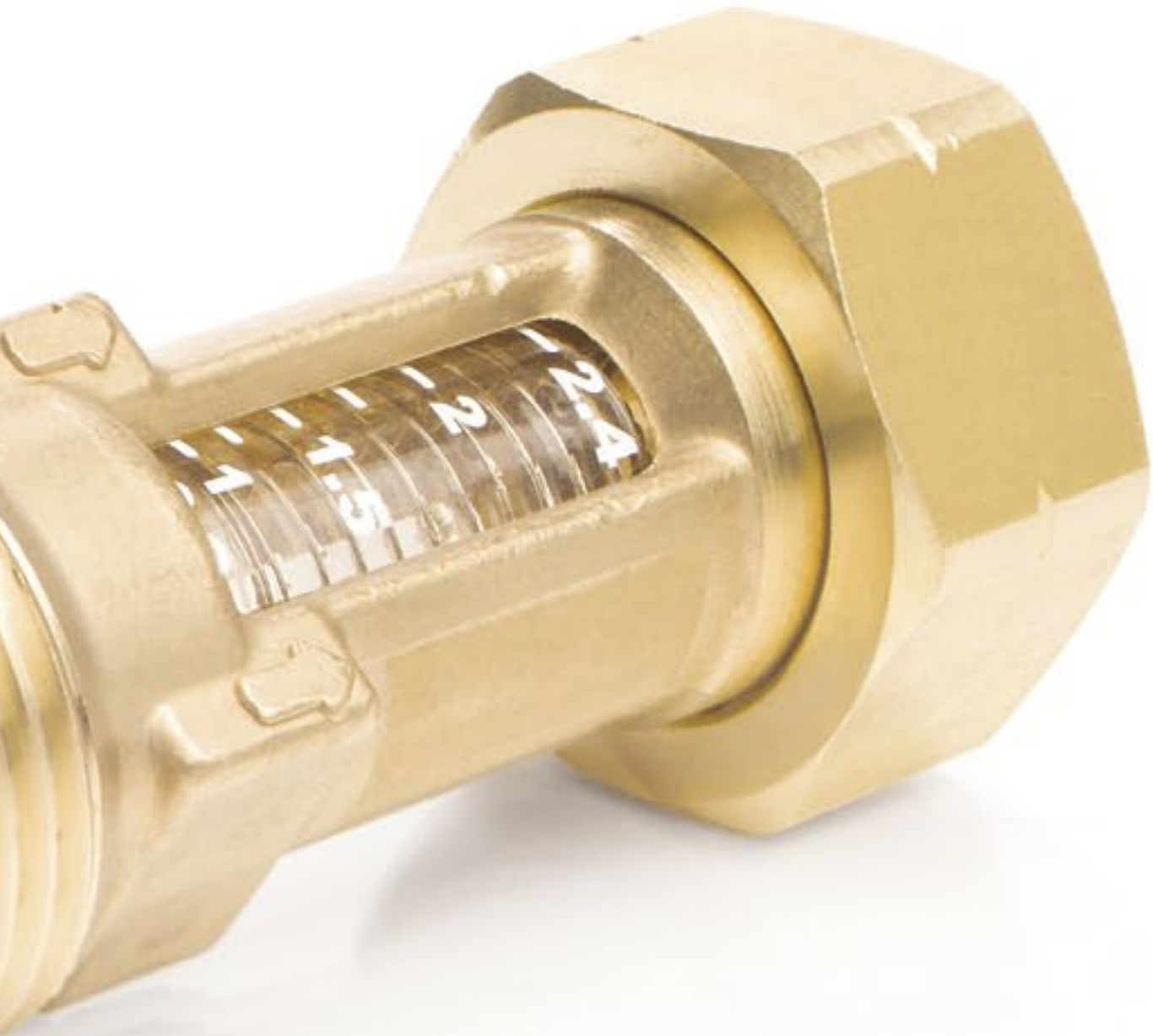
TEMPERATURE SENSOR PT 1000 FOR HEAT QUANTITY METERING

(please order separately)
With 2 m silicone cable; temperature range: -50 – 180 °C

Order no.
296.7009.000

PRECISE MODEL

The TacoControl flow meter indicates the volume of water flowing in heating, ventilation, air-conditioning and sanitary systems easily and comfortably. The compact design of the TacoControl flow meter makes installation of a volume flow display, even in tight spaces. The special connection is suitable for direct, time-saving mounting on components with a Eurokonus adapter.


1
1-1/2
2
2-1/4

TACOCONTROL FLOWMETER

DESCRIPTION

- Flow meter
- Flow control directly at the consumer or in a subsystem

ADVANTAGES

- Permanent, direct flow measurement and indication
- Compact design
- High measuring precision
- With cap nut for easy installation
- Minimal pressure loss
- With ¾" Eurokonus connection

FUNCTIONS

- Flow meter with viewing glass (l/min) integrated into the housing
- Displacement principle of an impact element held in a measuring tube with a counterspring
- Indication on a calibrated scale
- The index mark is the lower edge of the float element

TECHNICAL DATA

- k_{VS}-value and measuring range: see table across the page
- Operating temperature $T_{0\,max}$: 100 °C
- Operating pressure $P_{0\,max}$: 10 bar
- Measuring accuracy ± 10 % of the final value
- Installation position: in the flow direction in any position (360 °)

MATERIALS

- Housing: brass
- Measuring body: plastic
- Inner parts: stainless steel and plastic
- Viewing glass: heat-resistant, shock-resistant plastic
- Seals: EPDM

FLOW MEDIA

- Water mixtures with typical corrosion and glycol additives
- Hot water
- Cold water
- Cooling water

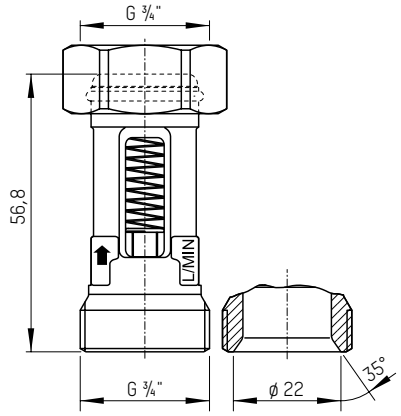
TACOCONTROL FLOWMETER – MODELS

FLOW METER WITH DIRECT INDICATION

Brass; Operating temperature $T_{0\,max}$: 100 °C; operating pressure: 10 bar
With 18 mm hole for Taconova and all Eurokonus screw

Order no.	DN	G x Rp	k_{VS} (m³/h)	Range (l/min)
223.4213.000	15	¾" x ¾"	0,5	0,6 – 2,4
223.4214.000	15	¾" x ¾"	0,9	1 – 3,5
223.4218.000	15	¾" x ¾"	1,6	2 – 8

TACOCONTROL FLOWMETER – DIMENSIONS



TACOCONTROL FLOWMETER – ACCESSORIES AND REPLACEMENT PARTS

SCREW CONNECTION FOR COPPER PIPE (CLAMP)

Comprises cap nut, clamp ring and support sleeve

Order no.	G x mm	For	Fits
210.3325.000	¾" x 15	Copper pipe 15/1	DN 15

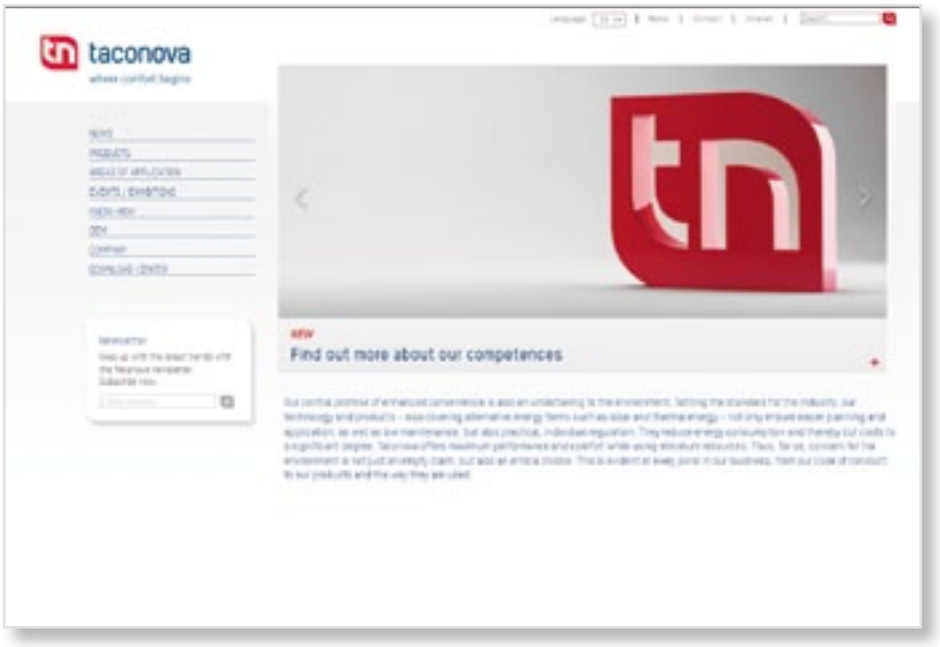
SCREW CONNECTIONS FOR FEMALE THREAD RP

Comprises a cap nut and insert

Order no.	G x R	For
210.6221.000	¾" x ½"	½" thread, conically sealing
210.6222.000	¾" x ½"	½" thread, self-sealing

taconova

where comfort begins



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