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## Notes

Oventrop's Standard Terms and Conditions of Sale and Warranty apply.

If not stated otherwise, all hydronic parts in this list are suitable for hot water with an operating temperature of up to 240 °F and an operating pressure of up to 50 psi.

For information on additional items, please visit our website www.oventrop-us.com

Upon request, we will gladly investigate availability and pricing of items not mentioned in this book.

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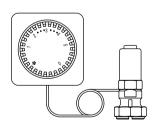
	Item	Box qty.	Item no.	Information
	Thermostat "Uni XH" connection thread M 30x1.5 with liquid sensor white model  white model with remote sensor capillary 6½ feet capillary 16 feet	(10) (10) (10)	101 13 65 101 15 65 101 15 66	These actuators provide a simple means of controlling space temperature by adjusting the flow rate through the heater.  Modulating (not on-off) control that enables automatic matching of heat loss.  Temperature setting may be limited and set by user. Memory disc to mark favorite setpoint. Maximum heating water temperature 248 °F. "0" setting = positive "off" "f" setting = freeze protection  Temperature range 42 - 84 °F Markings on the dial 0,f, 1-5
	Thermostat "Uni XD" squeeze connection with liquid sensor white model	(10)	101 13 75	These thermostats can be fitted without an adapter to Danfoss valves, series RA (squeeze connection) and Buderus radiators with integrated valve assembly.  Squeeze connection with collar nut: easy installation close connection
	white model with remote sensor capillary 6½ feet	(10)	101 15 75	Temperature setting may be limited and set by user. Memory disc to mark favorite setpoint. Maximum heating water temperature 248 °F. "0" setting = positive "off" "f" setting = freeze protection  Temperature range 42 - 84 °F  Markings on the dial 0,f, 1-5
-234	Thermostat "Vindo" connection thread M 30x1.5 with liquid sensor compact white model	(10)	101 30 66	Temperature setting may be limited by user through use of hidden limiting guides.  Maximum heating water temperature 248 °F.  "0" setting = positive "off"  "f" setting = freeze protection  Temperature range 42 - 84 °F  Markings on the dial 0,f, 1-5
-2 · · · 3 · · · · · · · · · · · · · · ·	Thermostat "Vindo" squeeze connection with liquid sensor compact white model	(10)	101 30 76	These thermostats can be fitted without an adapter to Danfoss valves, series RA (squeeze connection) and Buderus radiators with integrated valve assembly.  Same setting features as "Vindo" above.



	Item	Box qty.	Item no.	Information
\$ 7 · C · Z	Thermostat "Uni LH" connection thread M 30x1.5 with liquid sensor			Temperature setting may be limited or locked by use of internal and tamper-resistent limiting guides. Tool is required for limiting and
	white model	(10)	101 14 65	locking. See page 8 for ring loosening tool.  Memory disc to mark favorite setpoint.
	chrome model	(10)	101 14 69	Maximum heating water temperature 248 °F. "0" setting = positive "off" "f" setting = freeze protection
	white model with remote sensor			Temperature range 42 - 84 °F Markings on the dial 0, <b>f</b> , 1-5
	capillary 6½ feet	(10)	101 16 65	Markings on the dial 0,1, 1-3
© 54.5	Thermostat "Uni LD" squeeze connection with liquid sensor			
	white model	(10)	101 14 75	
	white model with remote sensor			
On parts	capillary 6½ feet	(10)	101 16 85	
2 m3m4 s	Thermostat "Uni DH" with wax sensor compact model connection thread M 30x1.5			Maximum heating water temperature 248 °F. "0" setting = positive "off" "f" setting = freeze protection
	white model	(10)	101 10 65	Temperature range 42 - 84 °F Markings on the dial 0,f, 1-5
5 111111 7 1	white model with remote sensor capillary 6½ feet	(10)	101 11 65	Without "0" positive off setting Temperature range 42 - 84 °F Markings on the dial f, 1-5
2 · 3 · 4	Thermostat "Uni SH" with liquid sensor connection thread M 30 x 1.5 marking "Uni SH" hidden inside			With easy-to-read setting device.  Maximum heating water temperature 248 °F.  "0" setting = positive "off"  "f" setting = freeze protection
фодивно	white/chrome plated model	(10)	101 20 65	Temperature range 42 - 84 °F Markings on the dial 0,f, 1-5
	in stainless steel finish	(10)	101 20 85	With mounted design cover.
do z j was to	Thermostat "Uni LHB" with liquid sensor connection thread M 30 x 1.5 white model	(10)	101 14 10	Lockshield configuration with integrated anti-theft device. Increased flectional strength up to 220 lbs. Setting key is required for setting the temperature value. See page 8 for setting tool.
0				Without "0" positive off setting Temperature range 42 - 84 °F



	Item	Box qty.	Item no.	Information
THE THE PART OF TH	for Oventrop zone/radiator valves M 30 x 1.5 connection  Thermostat with remote control "Uni FH" with liquid sensor connection thread M 30 x 1.5  white model  capillary 6½ feet  capillary 16 feet  capillary 33 feet	(40) (40) (40)	101 22 95 101 22 96 101 22 97	Wall-mounted thermostats with remote control and remote transmission (for radiators, baseboard, floor heating, fan coils).  Temperature setting may be limited or locked through use of internal limiting guides.  Maximum heating water temperature 248 °F.  "0" setting = positive "off"  "f" setting = freeze protection  Temperature range 42 - 84 °F  Markings on the dial 0,f, 1-5
DAR COMPANY OF THE PART OF THE	white model with additional remote sensor capillary 6½ feet capillary 16 feet	(40) (40)	101 23 95 101 23 96	



for Danfoss radiator valves RA squeeze connection

Thermostat with remote control "Uni FD" squeeze connection with liquid sensor

white model

capillary 6½ feet (40) 101 22 75

These thermostats can be fitted without an adapter to Danfoss valves, series RA (squeeze connection).

Wall-mounted thermostats with remote control and remote transmission (for radiators,

baseboard, floor heating, fan coils).

Temperature setting may be limited or locked through use of internal limiting guides.

Maximum heating water temperature 248 °F.

"0" setting = positive "off"

"f" setting = freeze protection

Temperature range 42 - 84 °F Markings on the dial 0,f, 1-5



	Item	Box qty.	Item no.	Information
	Thermostat "Uni XD" squeeze connection with liquid sensor white model	(50)	101 13 75	These thermostats can be fitted without an adapter to Danfoss valves, series RA (squeeze connection) and Buderus radiators with integrated valve assembly.  Squeeze connection with collar nut: easy installation close connection
	white model with remote sensor capillary 6½ feet	(10)	101 15 75	Temperature setting may be limited and set by user. Memory disc to mark favorite setpoint. Maximum heating water temperature 248 °F. "0" setting = positive "off" "f" setting = freeze protection  Temperature range 42 - 84 °F Markings on the dial 0,f, 1-5
8	Thermostat "Uni LD" squeeze connection with liquid sensor white model	(10)	101 14 75	
87 · S · 2	white model with remote sensor capillary 6½ feet	(10)	101 16 85	
	Thermostat "Vindo" squeeze connection with liquid sensor Compact white model	(10)	101 30 76	These thermostats can be fitted without an adapter to Danfoss valves, series RA (squeeze connection) and Buderus radiators with integrated valve assembly.  Temperature setting may be limited by user through use of hidden limiting guides.  Maximum heating water temperature 248 °F.  "0" setting = positive "off"  "f" setting = freeze protection  Temperature range 42 - 84 °F  Markings on the dial 0,f, 1-5
CARANCE OF THE PARTY OF THE PAR	Thermostat with remote control "Uni FD" squeeze connection with liquid sensor white model capillary 61/2 feet	(40)	101 22 75	Wall-mounted thermostats with remote control and remote transmission (for radiators, baseboard, floor heating, fan coils). Temperature setting may be limited or locked through use of internal limiting guides. Maximum heating water temperature 248 °F. "0" setting = positive "off" "f" setting = freeze protection  Temperature range 42 - 84 °F Markings on the dial 0,f, 1-5



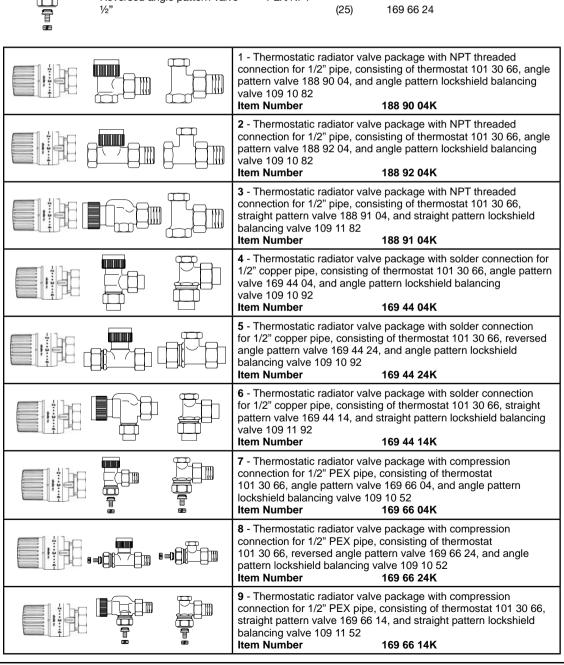
	Item	Box qty.	Item no.	Information
ov ov	Right angle pattern adapter M 30 x 1.5/M 30 x 1.5 white model	(10)	101 14 50	For the connection of the thermostats at a right angle. For Oventrop radiator valves with connection M 30 x 1.5.
	Right angle pattern adapter squeeze connection/squeeze connection white model	(10)	101 14 52	For Danfoss radiator valves series RA, or for Buderus radiators.
	Thread adapter, nickel plated from M 30 x 1.0 to M 30 x 1.5	(10)	101 14 45	For the conversion of actuator connection thread
	"Uni-Clip" vertical reading adapter ring for "Uni XH" and "Uni XD" thermostats			Transposes setting numbers from horizontal to vertical reading.
	Thermostat mounted right side	(50)	101 13 96	
	Thermostat mounted left side	(50)	101 13 97	
	Vandal guard for thermostat "Uni XH" white model	(25)	101 17 66	
Grant State	Vandal guard for thermostat "Uni DH" white model	(10)	101 19 11	Prevents unauthorized removal of thermostat. Includes Allen key. Minimum order quantity = 5
	2 piece trim ring to hide nickel plated lock nut of "Uni XH"	(50)	101 13 93	Minimum order quantity = 5
	Manual temperature adjuster for all valves with M 30 x 1.5 thread	(10)	101 25 65	
	with squeeze connection for Danfoss valv	es	101 25 75	
	"Uni LH" tool To loosen the graduation cap and clip Bag of 5 pieces		198 91 00	
	"Uni LHB" setting key for lockshield thermostat "Uni LHB"		101 14 97	To set the nominal temperature value for the thermostat.



Item	Connection	Box qty.	Item no.	Information
Zone/radiator valves Connection thread M 30 x 1.5 bronze/brass, nickel plated  "Series AZ" (for hot water) Threaded valves Angle pattern valve  1/2"  3/4" 1"	NPT/NPT	(25) (25) (10)	188 90 04 188 90 06 188 90 08	The Oventrop "Series AZ" radiator valves can be used with four types of actuators:  1. Manual adjuster (included) 2. Thermostat (non-electric) 3. Thermostat-remote control (non-electric) 4. 24 V electric for on/off control  All valve inserts are replaceable under working conditions by means of the
11/4"  Straight pattern valve 1/2" 3/4" 1" 11/4"	NPT/NPT	(25) (25) (10) (10)	188 90 10 188 91 04 188 91 06 188 91 08 188 91 10	special tool "Demo-Bloc." Heating system does not need to be drained when using "Demo-Bloc" for removing and replacing valve inserts.
Reversed angle pattern valve ½" 3/4"	NPT/NPT	(25) (25)	188 92 04 188 92 06	
Double angle pattern valve ½" left hand side connection  Double angle pattern valve ½" right hand side connection	NPT/NPT	(25)	169 40 62 169 40 63	
"Series AZ" (for hot water) Sweat valves				
Angle pattern valve 1/2" 3/4"	SWT/SWT	(25) (25)	169 44 04 169 44 06	Includes (2) unions and sweat tails.
Straight pattern valve 1/2" 3/4"	SWT/SWT	(25) (25)	169 44 14 169 44 16	
Reversed angle pattern valve <sup>1</sup> / <sub>2</sub> " <sup>3</sup> / <sub>4</sub> "	SWT/SWT	(25) (25)	169 44 24 169 44 26	



Item	Connection	Box qty.	Item no.	Information
"Series AZ" (for hot water) Connection thread M 30 x 1.5 bronze/brass, nickel plated PEX valves				PEX connection on inlet to radiator valve.  The Oventrop "Series AZ" radiator valves can be used with four types of actuators:
Angle pattern valve 1/2"	PEX/NPT	(25)	169 66 04	1. Manual adjuster (included) 2. Thermostat (non-electric) 3. Thermostat-remote control (non-electric) 4. 24 V electric for on/off control
Straight pattern valve 1/2"	PEX/NPT	(25)	169 66 14	All valve inserts are replaceable under working conditions by means of the special tool "Demo-Bloc."
Reversed angle pattern valve 1/2"	PEX/NPT	(25)	169 66 24	ola tool Bollo Bloc.





	Item	Connection	Box qty.	Item no.	Information 1
	Radiator valves "Series E" Connection thread M 30 x 1.5  Angle pattern valve ½" chrome plated ½" white powder coated	BSP		116 30 52 116 30 62	Designer series for use with towel racks or panel radiators. Includes valve insert AD6 (6 flow presettings).  Gold plated or anthracite models upon request.
	Straight pattern valve 1/2" chrome plated 1/2" white powder coated	BSP		116 31 52 116 31 62	Awards:  Design Award of North Rhine Westphalia, Award of Honour for Industrial Products
	Double angle pattern valve left hand side connection ½" chrome plated ½" white powder coated right hand side connection ½" chrome plated ½" white powder coated	BSP		116 34 52 116 34 62 116 34 53 116 34 63	Industrial Design Forum Hannover Award iF  Design Innovation of DesignCentre Essen Award for High Quality of Design  Pragotherm, Prague  German Institute for Copper Berlin Award "Product and Brass"
	Service valve "Combi E"  Angle pattern ½" chrome plated ½" white powder coated  Straight pattern ½" chrome plated	BSP		116 60 52 116 60 62 116 70 52	Normally used on return side of radiator or towel rack. Allows isolation, balancing with fill and drain capabilitity.
\$ - \$ - \$	Thermostat "Uni SH" with liquid sensor connection thread M 30 x 1.5 marking "Uni SH" hidden inside white/chrome plated model stainless steel finish		(10) (10)	101 20 65 101 20 85	With easy-to-read setting device.  Maximum heating water temperature 248 °F.  "0" setting = positive "off"  "f" setting = freeze protection  Temperature range 42 - 84 °F  Markings on the dial 0,f, 1-5  With mounted design cover.



Item	Connection	Box qty.	Item no.	Information
"Series S" (for low pressure steam Steam radiator valve Threaded valves One-pipe steam radiator valve	, max.15 psi) NPT	(25)	188 85 51	
Angle pattern valve  1/2"  3/4"  1"  11/4"  Straight pattern valve  1/2"  3/4"  1"  11/4"  Reversed angle pattern valve  1/2"  3/4"	NPT/NPT  NPT/NPT	(25) (25) (25) (25) (25) (25) (25) (25)	189 90 04 189 90 06 189 90 08 189 90 10 189 91 04 189 91 06 189 91 00 189 91 10	The Oventrop "Series S" radiator valves can be used with four types of actuators:  1. Manual adjuster (included) 2. Thermostat (non-electric) 3. Thermostat-remote control (non-electric) 4. 24 V electric for on/off control  All valve inserts are replaceable under working conditions by means of the special tool "Demo-Bloc". Heating system does not need to be drained when using "Demo-Bloc" for removing and replacing valve inserts.
One-pipe radiator injection valves with constant bypass and shut off Connections ½" to radiator ¾" (Euroconus) to system with horizontal insertion tube			118 35 61	The minimum bypass of the one-pipe radiator injection valves is 35%. Bypass cannot be closed. The insertion tube is 6" long, has a diameter of $\frac{7}{16}$ " and the distance between pipe centers is 2 inches.
with vertical insertion tube			118 35 71	The one-pipe radiator injection valve with vertical insertion tube is especially suitable for towel radiators. (The technical instructions of the radiator manufacturers need to be observed.)



	Item	4°F Cv	Item no.	Information
	Valve inserts for all valves M 30 x 1.5, excluding 101 70	0 60		Standard with Oventrop zone/radiator valves
	Valve insert "Series AZ"	1.28	118 70 60	M 30 x 1.5 highest Cv.
	Valve insert "Series AZ" M 30 x 1.0		101 70 60	
	Valve insert "Series AV 6" with presetting	0.75	118 70 57	Adjustable Cv valve insert, allows technician to balance flow rate. Six different settings. Use key for setting adjustment no. 118 39 61
	Valve insert "Series ADV 6" "Landlord model"	0.75	118 60 01	Same as "Series AV 6", but with additional feature that, if thermostat is removed, flow will be restricted to 5% of normal flow.  Use key for setting adjustment no. 118 39 61
	Valve insert "Series S" Valve insert with stainless steel seat	0.70	118 62 00	Steam specialty insert for steam systems.
	Special valve insert	0.52	118 70 70	Low Cv to correct reversed supply/return hookup.
	Valve insert "series KT"	0.58	114 71 69	Opens valve upon rising temperature.
	Valve insert "Series TM" ½" ¾" 1" 1¼"	1.1 1.2 1.3 1.6	106 70 85	Insert for pressure differential of up to 40 psi (for commercial baseboard, etc.).
	"Demo-Bloc" Special tool for replacing Oventrop valve under working conditions for both M 30 x and M 30 x 1.5 thread connections  Key		118 80 51	
100	for flow rate setting on AV 6 / ADV 6 inser	ts	118 39 61	



					_
	ltem C	onnection E	Box qty.	Item no.	Information
	Service valve "Combi 2" balancing, shut-off				Used on the return side of radiators, base-
	Angle pattern				board or convectors to provide balancing
	brass model, nickel plated				and shut-off capability.
	½", NPT/NPT	(-	100)	109 10 82	Use 6 mm Allen key. All lockshield valves are suitable for use on
	¾", NPT/NPT			109 10 83	copper pipes.
	½", sweat/sweat	(-	100)	109 10 92	Sweat connection includes (2) unions and
					sweat tails.
	Straight pattern				
	brass model, nickel plated				
	½", NPT/NPT	•	100)	109 11 82	
	¾", NPT/NPT	(2	25)	109 11 83	
	½", sweat/sweat	(**	100)	109 11 92	Sweat connection includes (2) unions and sweat tails.
	Service valve "Combi 4"				
	balancing with memory position,				Used on the return side of radiators, base-
	shut-off, filling and draining				board or convectors to provide balancing
	Angle pattern brass model, nickel plated				with memory stop and shut-off capability. Use 6 mm Allen key.
	½", NPT/NPT			109 06 82	·
	¾", NPT/NPT			109 06 83	All lockshield valves are suitable for use on copper pipes.
Щ	Straight pattern, NPT/NPT brass model, nickel plated				обррег рірев.
	½", NPT/NPT			109 07 82	
	%", NPT/NPT			109 07 83	
	,				"Multiflex" fittings are used for radiators
	"Multiflex" fittings				with integrated distributors for one and
	for panel radiators with bottom tappi				two-pipe systems. "Euroconus" compression fitting required
	and built-in valve assembly (such as	Buderus, Dial	Norm)		to connect for piping (see below).
	Preset isolation and diverting valves	for one-pipe s	systems		
	½" angle pattern		10)	101 59 34	Diverting "Multiflex" can be used for two-
	½" straight pattern	(*	10)	101 59 33	pipe systems or for one-pipe series loop systems, valve allows setting of flow to
	2-pipe isolating valve				next radiators in loop. Preset to one pipe
	½" angle pattern			101 58 14	operation for radiator share at 35%.
<b>6</b>	½" straight pattern			101 58 13	Isolating "Multiflex" is used for two-pipe
	2-pipe isolating valve for reversed co	onnection			systems.
	½" angle pattern ½" straight pattern			101 64 63 101 63 63	
	72 Straight pattern			101 00 00	For use with compression fittings.
	Adapter from ½" female to ¾" male (	(Euroconus)			
	nipple, unplated	,			
	one port self sealing	(-	10)	102 82 53	
	"Euroconus"				
	Compression fittings for stainless ste	eel manifolds.			All "Euroconus" sold in pairs.
	"Unibox", panel radiators, etc.				"Euroconus" compression fitting required
	US-PEX %" US-PEX ½"		100) 100)	164 68 49 164 68 50	for pipe connection to "Multiflex" (above).
	US-PEX ½"	,	100)	164 68 51	
	Copper ½", with soft sealing rubber	r fitting /-	100)	101 68 44	
	Copper ½, with soft sealing rubber Copper ½, with brass compression		100)	101 68 44	
14	· ·	- '			



Zone vaives			Iwo-way (	Control and Balance Valve "Cocon Q"
Item	Connection	Box qty.	Item no.	Information
Two-way zone valve 24V actuator two-wire  3/4"	sweat/sweat		168 07 52 168 07 06	The two-way valve with actuator is used for on/off control for chilled and hot water systems. The actuator is driven by an unilateral motor with spring return. Bronze body. Cv 3.3  Lever opening arm.
Zone/radiator valve Two-way straight pattern valve 24V				The two-way valve with actuator is used for on/off control for chilled and hot water systems.  Bronze body, nickel plated, 24V. Choose normally closed ZV (four-wire) or normally open ZVO (two-wire)
3/4" normally closed	sweat/sweat	(25)	169 44 16 ZV	ZV includes (1) #101 24 96 electrothermal actuator LH, normally closed, 2 Watt, with end switch.
3/4" normally open	sweat/sweat	(25)	169 44 16 ZVC	2VO includes (1) #101 24 86 electro- thermal actuator, normally open.
Regulating valve "Cocon Q" Two-way control valve Pressure independent with test points				The "Cocon Q" is a pressure independent balance valve for proportional flow or on/off control for chilled and hot water systems.  Actuator connection M30 x 1.5



	ure independent est points		on/off control for chilled and hot water systems. Actuator connection M30 x 1.5	
1/2"	0.6 - 4.6 GPM	NPT/NPT	167 62 04	Sold without actuator.  Minimum 5 psi pressure drop required.
3/4"	0.6 - 4.6 GPM	NPT/NPT	167 60 06	William o par pressure drop required.
withou	ut test points			
1/2"	0.6 - 4.6 GPM	NPT/NPT	167 57 04	
3/4"	0.6 - 4.6 GPM	NPT/NPT	167 55 06	



	Item	Connection	Box qty.	Item no.	Information
	Control actuators				Control actuators control the flow and temperature and can be used with conventional radiators, manifolds for underfloor heating systems, radiant and chilled ceiling systems and fan coil units. The actuators are protected against overvoltage.
	Electrothermal actuator (LH) 24 V, power "off", normally closed two-wire with end switch	M30 x 1.5	(100)	101 24 96	Compact design. For floor heat manifolds and zone valves.
	24 V, power "off", normally closed two-wire only	M30 x 1.5		101 28 16	End switch can be used to start a pump through a relay. Cable 32" (4 wires).
	24V, power "off", normally open two-wire only	M30 x 1.5		101 28 26	Slow acting to prevent water hammer.
	Adapter for electrothermal actuato for connection to M30x1.0 threade	` '		101 28 90	
	Electrothermal actuator 0-10V for temperature mixing or proportional flow normally closed with linear characteristic	M30 x 1.5		101 29 52	For three-way valves and two-way control valve
	Electromotive actuator 0-10V, with switchable characterist	tic M30 x 1.5		101 27 05	For three-way valves and two-way control valve
	Electromotive actuator 24V, 3-point floating	M30 x 1.5		101 27 01	
S Y S dayneso	Non-electric actuator with strap-on sensor and transfer 20 – 50 °C (68 – 122 °F) 30 – 60 °C (86 – 140 °F) 40 – 70 °C (104 – 158 °F) 50 – 80 °C (122 – 176 °F)	unit M30 x 1.5 M30 x 1.5 M30 x 1.5 M30 x 1.5	(10) (10) (10) (10)	114 28 61 114 28 62 114 28 63 114 28 64	Thermostatic operator for controlling supply or return water temperature.  Applications include maintaining a minimum return temperature to a boiler, and mixing temperature for low and medium temperature emitters such as for radiant panels and radiant floor heating.  M30x1.5 connection.  Capillary length 6½ ft.



	Item	Connection	Item no.	Information
	Duamer testan 1	and a side NET for the	. However a	
	Bronze balancin	g valve with NPT female	thread	"Hydrocontrol" calibrated manual
	DN15 ½"	NPT/NPT	106 10 04	balancing valves have a multi-turn handle
	DN20 3/4"	NPT/NPT	106 10 04	for presetting and memory stop.
7.\ <i>\</i> }	DN25 1"	NPT/NPT	106 10 08	
	DN32 11/4"	NPT/NPT	106 10 06	"Hydrocontrol" models all include
	DN40 1½"	NPT/NPT	106 10 10	de-zincification resistant brass on the
	DN50 2"	NPT/NPT	106 10 12	stem and trim, maintenance free
~	DINOU Z	INI I/INI I	100 10 10	double O-ring seal, PTFE stem seat,
	Bronze balancin	g valve with solder conr	nection	and a lockable presetting.
	5115 4/11			
	DN15 ½"	sweat x sweat	106 05 51	
	DN20 ¾"	sweat x sweat	106 05 52	
	DN25 1"	sweat x sweat	106 05 53	
	DN32 1¼"	sweat x sweat	106 05 54	
	DN40 1½"	sweat x sweat	106 05 55	
~	DN50 2"	sweat x sweat	106 05 56	
	Flanged cast iro	n balancing valve (ANSI)	)	
	DN20 3/4"	flange x flange	106 29 46	
	DN25 1"	flange x flange	106 29 47	
ЛП	DN32 11/4"	flange x flange	106 29 48	
	DN40 1½"	flange x flange	106 29 49	
PN <sup>6</sup> GG25	DN50 2"	flange x flange	106 29 50	
	DN65 2½"	flange x flange	106 29 51	
	DN80 3"	flange x flange	106 29 52	
	DN100 4"	flange x flange	106 29 53	
	DN125 5"	flange x flange	106 29 54	
пп	DN150 6"	flange x flange	106 29 55	
	DN200 8"	flange x flange	106 29 56	
→ GG25	DN250 10"	flange x flange	106 29 57	
on J	DN300 12"	flange x flange	106 29 58	
	DN350 14"	flange x flange	106 29 59	
	Cast iron baland	cing valve with groove co	onnection	
	DN65 2½"	aroove v aroovo	106 30 51	
-		groove x groove		
W A	DN80 3" DN100 4"	groove x groove	106 30 52 106 30 53	
		groove x groove		
	DN125 5"	groove x groove	106 30 54	
The state of the s	DN150 6"	groove x groove	106 30 55	
	DN200 8"	groove x groove	106 30 56	
	DN250 10" DN300 12"	groove x groove	106 30 57 106 30 58	
GG25	בו טטטאוט	groove x groove	100 30 30	



Item	Description	Item no.	Information

"Hydrocontrol-R" Coil Hookup Kit\*

<sup>\*</sup>Connections must be specified at time of order. See below.

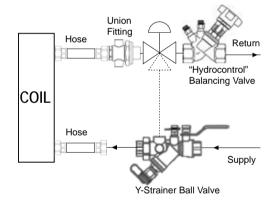
DN15	1/2"	166 10 04
DN20	3/4"	166 10 06
DN25	1"	166 10 08
DN32	11/4"	166 10 10
DN40	1½"	166 10 12
DN50	2"	166 10 16

Specifying connections for the coil kit,  ${\bf F}={\rm FNPT}, {\bf M}={\rm MNPT}, {\bf S}={\rm SWT}.$  The first letter designates the fixed-end connection. The second letter designates the union-end connection.

Each size is available in the connections below.

FF	Balancing valve Y-strainer Union fitting	FxF FxF FxF	SF	Balancing valve Y-strainer Union fitting	SxS SxF SxF
FM	Balancing valve Y-strainer Union fitting	FxF FxM FxM	SM	Balancing valve Y-strainer Union fitting	SxS SxM SxM
FS	Balancing valve Y-strainer Union fitting	FxF FxS FxS	SS	Balancing valve Y-strainer Union fitting	SxS SxS SxS

# "Hydrocontrol-R" Coil Hookup Kit



handle, for presetting and memory stop.

All "Hydrocontrol" models include

"Hydrocontrol" calibrated manual

balancing valves have a multi-turn

All "Hydrocontrol" models include de-zincification resistant brass on the stem and trim, maintenance free double O-ring seal, PTFE stem seat, and a lockable presetting.

The Oventrop strainer coil kit is an assembly for the supply side of a fan coil unit or air handler. Each assembly consists of a Y-strainer, ball valve, PT port, and drain. A union connection at the strainer is male, female, or sweat. A sweat or female connection is available on the ball valve end.

Oblique pattern strainer for vertical and horizontal installation. Bronze body, with wire basket made of stainless steel.

Oventrop union for the return side of a fan coil unit or air handler. The fixed connection of the union is female or sweat. The union connection is available on the control valve side.

Union made of forged brass, O-ring seal for union. The union has an airvent and a pressure test point.

Stainless Steel Flex Hoses for Coil Hookup Kit

DN15	1/2" 3/4" 1" 11/4" 11/2" 2"	18" Length, Single hose	106 10 15-18
DN20		18" Length, Single hose	106 10 20-18
DN25		18" Length, Single hose	106 10 25-18
DN32		18" Length, Single hose	106 10 32-18
DN40		18" Length, Single hose	106 10 40-18
DN50		18" Length, Single hose	106 10 50-18
DN15	1/2" 3/4" 1" 11/4" 11/2" 2"	24" Length, Single hose	106 10 15-24
DN20		24" Length, Single hose	106 10 20-24
DN25		24" Length, Single hose	106 10 25-24
DN32		24" Length, Single hose	106 10 32-24
DN40		24" Length, Single hose	106 10 40-24
DN50		24" Length, Single hose	106 10 50-24
DN15	1/2" 3/4" 1" 11/4" 11/2" 2"	30" Length, Single hose	106 10 15-30
DN20		30" Length, Single hose	106 10 20-30
DN25		30" Length, Single hose	106 10 25-30
DN32		30" Length, Single hose	106 10 32-30
DN40		30" Length, Single hose	106 10 40-30
DN50		30" Length, Single hose	106 10 50-30

Hose connection is FNPT union x MNPT



Item		Description	Item no.	Information
"Hydro	control"	Y-Strainer Ball Valve		
DN15	1/2"	FNPTxFNPT	166 80 01	The Oventrop strainer coil kit is an
DN20	3/4"	FNPTxFNPT	166 80 03	assembly for the supply side of a fan
DN25	1"	FNPTxFNPT	166 80 05	coil unit or air handler. Each assembly
DN32	11/4"	FNPTxFNPT	166 80 07	consists of a Y-strainer, a ball valve, a PT
DN40	1½"	FNPTxFNPT	166 80 09	port, and a drain. A union connection at
DN50	2"	FNPTxFNPT	166 80 11	the strainer is male, female, or sweat. A sweat or female connection is available
DN15	1/2"	SWTxSWT	166 81 02	on the ball valve end.
DN20	3/4"	SWTxSWT	166 81 04	
DN25	1"	SWTxSWT	166 81 06	Oblique pattern strainer for vertical and
DN32	1¼"	SWTxSWT	166 81 08	horizontal installation. Bronze body, with
DN40	1½"	SWTxSWT	166 81 10	wire basket made of stainless steel.
DN50	2"	SWTxSWT	166 81 14	
DN15	1/2"	FNPTxSWT	166 81 01	
DN20	3/4"	FNPTxSWT	166 81 03	
DN25	1"	FNPTxSWT	166 81 05	
DN32	1¼"	FNPTxSWT	166 81 07	
DN40	1½"	FNPTxSWT	166 81 09	
DN50	2"	FNPTxSWT	166 81 11	
DN15	1/2"	SWTxFNPT	166 80 02	
DN20	3/4"	SWTxFNPT	166 80 04	
DN25	1"	SWTxFNPT	166 80 06	
DN32	1¼"	SWTxFNPT	166 80 08	
DN40	1½"	SWTxFNPT	166 80 10	
DN50	2"	SWTxFNPT	166 80 12	
DN15	1/2"	SWTxMNPT	166 82 02	
DN20	3/4"	SWTxMNPT	166 82 04	
DN25	1"	SWTxMNPT	166 82 06	
DN32	1¼"	SWTxMNPT	166 82 08	
DN40	1½"	SWTxMNPT	166 82 10	
DN50	2"	SWTxMNPT	166 82 12	
DN15	1/2"	FNPTxMNPT	166 82 01	
DN20	3/4"	FNPTxMNPT	166 82 03	
DN25	1"	FNPTxMNPT	166 82 05	
DN32	1¼"	FNPTxMNPT	166 82 07	
DN40	1½"	FNPTxMNPT	166 82 09	
DN50	2"	FNPTxMNPT	166 82 11	

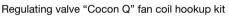




Item	Description	Item no.	Information
Two-wa	ting valve "Cocon Q" basic hookup se ay control valve and Y-strainer ball valve re independent st points  0.6 - 4.6 GPM, MNPT/FNPT  0.6 - 4.6 GPM, MNPT/FNPT  0.8 - 5.7 GPM, MNPT/FNPT  1.3 - 8.8 GPM, MNPT/FNPT  2.6 - 15.8 GPM, MNPT/FNPT		The "Cocon Q" is a pressure independent balance valve for proportional flow or on/off control for chilled and hot water systems.  Actuator connection M30 x 1.5  Sold without actuator.
1½" 2"	6.3 - 33 GPM, FNPT/FNPT 11 - 44 GPM, FNPT/FNPT	166 81 12 166 81 16	



Carolin .	
The same of the sa	



1/2"	0.6 - 4.6 GPM, SWT/MNPT	167 90 04
¾" LF	0.6 - 4.6 GPM, SWT/MNPT	167 90 06
3/4"	0.8 - 5.7 GPM, SWT/MNPT	167 91 06
1"	1.3 - 8.8 GPM, SWT/MNPT	167 90 08
1¼"	2.6 - 15.8 GPM, SWT/MNPT	167 90 10







Regulating	vaive	Cocon Q	ian con	поокир кіт

Electrothermal actuator 24 V, power "off", normally closed, M30 x 1.5 101 24 96 four-wire with end switch

24 V, power "off", normally closed, M30 x 1.5

two-wire only 24V, power "off", normally open, M30 x 1.5

or proportional flow normally closed

two-wire only Electrothermal actuator 0-10V for temperature mixing, M30 x 1.5 101 29 52

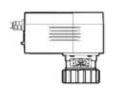
101 28 16

101 28 26

Electromotive actuator 0-10V, with switchable characteristic, M30 x 1.5 101 27 05







Electromotive actuator, 24V 0-10V, or switching as 2 or 3 point floating control, Squeeze type 115 80 10

The "Cocon Q" fan coil hookup kit is a packaged solution, incorporating ball valves, a PI control valve, Venturi test ports, and a Y-strainer with drain valve.

Actuator connection M30 x 1.5

Sold without actuator.

For use with sizes 1/2" and 3/4"LF Compact design.

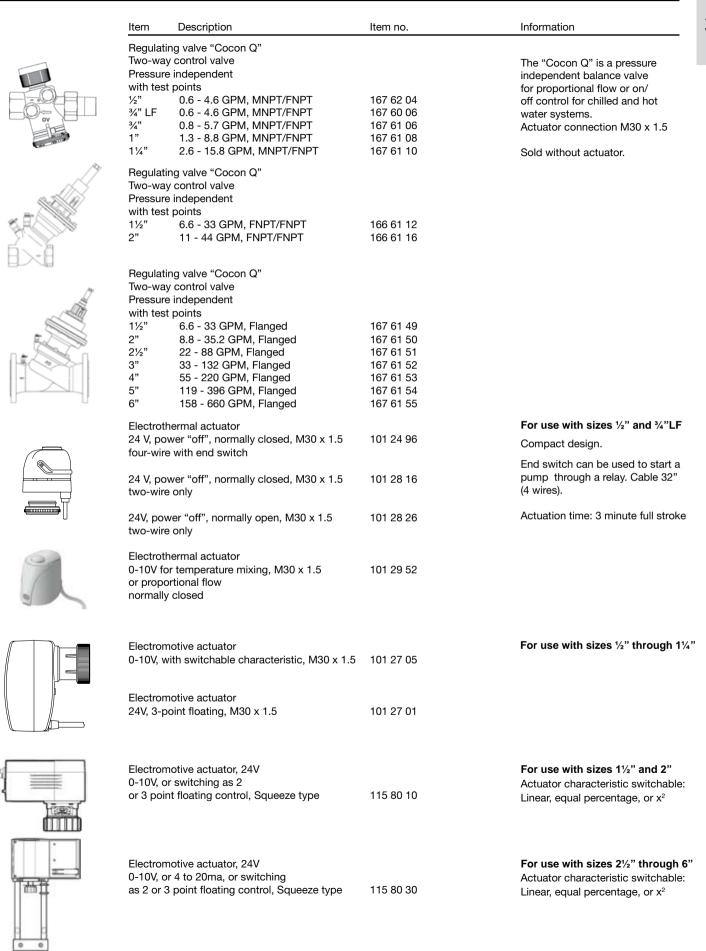
End switch can be used to start a pump through a relay. Cable 32"

(4 wires). Actuation time: 3 minute full stroke

For use with sizes 1/2" through 11/4"

For use with sizes 11/2" and 2" Actuator characteristic switchable: Linear, equal percentage, or x2







	Item	Description	Item no.	Information
On-Delt 2	"OV DMO		106 91 77	For the regulation and control of balance with Oventrop balancing valves or existing installations.
				Includes battery set for remote operation. Separate hardware components for the registration (transducer) and processing of measured values (micro-processor).
\\ \( \text{0.00} \\ \( \text{0.00} \\ \( \text{0.00} \\ \\ \( \text{0.00} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\				Flow-meter with watertight and dustproof keyboard for setting of values and adjustment to zero.
	Fill and d	kaja kall vako		Temperature measuring range: 32 - 212°F Operating voltage: 6 V
	1/2"	rain ball valve	106 01 91	Sold individually
	Measurin	ig adapter	106 02 98	Sold individually
<b></b>		d drain ball valve	100 02 00	Sold individually
	Set of 2 r	pressure test points	106 02 81	Sold in poiro
	Set of 2 p	oressure test points	100 02 01	Sold in pairs
	Extension length at	n piece for pressure test points 80mm	106 02 95	Sold individually
	Insulation	shells for Hydrocontrol R		
	DN15	1/2"	106 00 81	For valves that operate from -4 up to
	DN20	3/4"	106 00 82	212°F.
	DN25	1"	106 00 83	Insulation shells made of polyurethane.
ov	DN32	11/4"	106 00 84	
	DN40	1½"	106 00 85	
	DN50	2"	106 00 86	
	Insulation	shells for Hydrocontrol F and G		
	DN65	21/2"	106 25 86	Double shells with tongue-and-groove
	DN80	3"	106 25 87	fitting tightened by 2 metal straps.
_] [	DN100	4"	106 25 88	
	DN125	5"	106 25 89	
#	DN150	6"	106 25 90	
	DN200	8"	106 25 91	



Item	Description	Item no.	Information
Three-v bronze 3/4" 1" 11/2"	way mixing valve  Cv 5.2, Union connection  Cv 7.6, Union connection  Cv 11.0, Union connection	113 17 06 113 17 08 113 17 12	Actuator connection M 30 x 1.5  With 3 unions to accept threaded or sweat tailpieces (not included).
 Three-v bronze ¾" 1" 1½"	way diverting valve  Cv 5.2, Union connection  Cv 7.6, Union connection  Cv 11.0, Union connection	113 02 06 113 02 08 113 02 10	Actuator connection M 30 x 1.5  With 3 unions to accept threaded or sweat tailpieces (not included).
Sweat † 3/4" 1" 11/4" 11/2"	tailpiece/3-fold sweat connection sweat connection sweat connection sweat connection	198 76 72 198 76 73 113 01 96 198 76 75	Order one set per three way valve for complete installation kit.  11/4" tailpiece for 11/2" three-way body.
NPT tai ¾" 1" 1¼" 1½"	ilpiece/3-fold NPT connection NPT connection NPT connection NPT connection	170 60 06 170 60 08 170 60 10 170 60 12	Order one set per three way valve for complete installation kit.  11/4" tailpiece for 11/2" three-way body.



Item	Connection	Box qty.	Item no.	Information
Pressure actuated bypass valve bronze/brass with indicator 3/4" 1" 11/4"	NPT NPT NPT	(20) (6) (6)	165 98 06 165 98 08 165 98 10	Adjustable from 2 - 17 ft. of head. Bypass valve to maintain adequate boiler flow and reduce system velocity noises.  Normally piped between supply and return pipes downstream from pump. Opens up as differential pressure rise at one speed pump, as zones close.
Automatic air vent brass ½" without stop	NPT	(100)	108 83 81	Without automatic stop valve.
½" with stop	NPT	(100)	108 83 84	Airbleed can be removed from the system, taken apart and cleaned without draining.



	Stations for Floating Should		Tiegamat Accessories
	Item	Item no.	Information
	"Regumat 130 pumping stations "Regumat S-130" pumping station		System "Regumat" for the connection from the boiler to the pipework.
	DN25 1", with Star 16 pump DN25 1", with high efficiency pump	167 50 86 168 50 71HE	The products are supplied as a complete system for 1" pipework, size DN 25. To heating loop: 1" FNPT To boiler: 1" FNPT
	"Regumat M3-130" for three-way mixing		Consisting of: a. isolation device with two ball valves and two thermometers b. temperature controller with immersion
	DN25 1", with Star 16 pump DN25 1", with high efficiency pump	168 52 85 168 52 71HE	sensor c. pipe with check valve d. three-way mixing valve e. high temperature safety cut-off f. four-way mixing valve and actuator h. spacer k. insulation case
	Regumat M4-130 for four-way mixing		"Regumat" valves are made of brass or bronze. All "Regumat" valves are designed for a pressure of to 145 psi, PN 10.
c	DN25 1", with Star 16 pump	168 54 85	For Star 16 pumps, the differential pressure relief device may be added to "Regumat" pumping stations (see item 135 33 90 below). Purchased separately.
			"Regumat" Advantages:  - high functional efficiency  - all components from one supplier  - complete systems available  - high quality materials  - time-saving installation  - insulation housing prevents energy loss
	Regumat F-130 for fixed temperature control		
c G	DN25 1", with Star 16 pump DN25 1", with high efficiency pump	168 41 71S 168 41 71HE	
e-11-0			
	Differential pressure relief device for converting "Regumat" to include pressure bypass	135 33 90	Differential pressure relief device for converting "Regumat" S, M3, M4 - 130 Wall bracket for "Regumat 130"
	Wall bracket for "Regumat 130"	135 20 96	Manifold distributor with insulation for "Regumat 130"
	Manifold distributor for "Regumat 130"	135 15 71	For 2 "Regumat" stations on one manifold. With insulation casing.



		Item	Description	Item no.	Information
		Evacuat	ted tube collectors		
		OV 5-16	, with 16 tubes	540 00 16	Connection tees and sensor port are
	and the same	OV 5-8,	with 8 tubes	540 00 08	not included with the collector. They are packaged with the mounting hardware of each and cannot be purchased separately.
000		Evacuat	ted tube solar hot water kits		Separatery.
	1:	80-gallo	n evacuated tube kit	540 00 16K	
	0.0	119-gall	on evacuated tube kit	540 00 17K	
		Evacuat	ted tube collector connection ki	ts	
		Collecto	r connection kit, seamless joint	540 00 21	
		Evacuat	ted tube collector mounting racl	«s	
		Tilt mou	nt rack	540 00 28K	
		Flush me	ount rack	540 00 28-FM	
		Spanish	tile rack	540 00 28-TK	
		Standing	g metal seam mounting blocks	540 00 28-S5	Blocks are sold individually. A minimum of four (4) are required for each collector.
<u> </u>	<del>-i</del>	Flat plat	te collectors		
		OVF-21,	3'x7' flat plate collector	540 03 07	
		OVF-32,	4'x8' flat plate collector	540 04 08	
		OVF-40,	4'x10' flat plate collector	540 04 10	
	-	Flat plat	te solar hot water kits		
		"Recess	ion Buster" solar hot water kit	540 03 07K	
0		80-gallo	n flat plate kit	540 04 08K	
	0.0	119-gall	on flat plate kit	540 34 08K	
		Flat plat	te collector mounting racks		
		Tilt mou	nt rack	540 00 28-FP	
		Flush me	ount rack	540 00 28-FPFM	
		Strut mo	ounting clips	540 00 28-FC	
		Standing	g metal seam mounting blocks	540 00 28-S5	Blocks are sold individually. A minimum of four (4) are required for each collector.



	Item Description		Item no.	Information
	"Regusol EL130" solar pu	umping station	169 80 65	Transmission unit "Regusol EL-130" safety group/airvent, Wilo, 0-4 GPM flow meter and differential controller. Size: DN 25 (1") Model: with Wilo-pump ST-16U-25  The "Regusol EL-130" is designed for smaller systems using tanks with internal coils. It has an integrated, pre-wired control and pump. Plug and play design makes for easy installation.
0 0	"Regusol X" heat exchanç	ger solar pumping sta	ition	The "Regusol X" pumping station is designed for medium sized systems
	"Uno 15" with 50,000 BT	UH heat exchanger	167 10 61	where the tank does not have an internal heat exchanger. The "Regusol X" has an
	"Uno 25" with 85,500 BT	UH heat exchanger	167 10 95	integrated brazed plate heat exchanger and is pre-wired for easy installation.
	"Duo 15" with 50,000 BT	UH heat exchanger	167 10 51	The "Regusol X Duo" is fitted with a pre-
000	"Duo 25" with 85,500 BTI	UH heat exchanger	167 10 45	wired three-way valve for multiple tank installations.
	Solar working fluid			
	Pre-mixed 50% propylene	e glycol, 5 gallon pail	540 00 91	
	Solar valves for system	commissioning and	maintenence	
	Fill and flush valve		136 30 51	
	Solar piping			
	3/4" stainless steel linese	t, 50 ft	136 16 53	The stainless steel lineset consists of insulated supply and return lines as well as an extention wire for the collector sensor.
	Line set adapter for flat pl	late collectors	540 00 21-LSA	The line set adapter is required to use the line set with flat plate collectors.



Item	Item no.	Information
Single coil glass lined solar storage tanks		
50-gallon	540 00 50-SCG	
80-gallon	540 00 80-SCG	
80-gallon with electric element	540 00 80-SCE	à
119-gallon	540 01 19-SCG	
119-gallon with electric element	540 01 19-SCE	à
Dual coil glass lined solar storage tanks		
80-gallon	540 00 80-G	
80-gallon with electric element	540 00 80-DCEC	à
119-gallon	540 01 19-G	
119-gallon with electric element	540 01 19-DCEC	à
Large capacity double glass lined solar storage tanks with steel jacket		
210-gallon	540 02 10-DGS	J
310-gallon	540 03 10-DGS	J



435-gallon	540 04 35-DGSJ
Large capacity double glass lined solar storage tanks with top coat insulation	
210-gallon	540 02 10-DGTC
310-gallon	540 03 10-DGTC
435-gallon	540 04 35-DGTC



Item no.	Information
115 06 00	EnOcean wireless protocol. Pair up to four actuators to one thermostat.
115 06 01	
	115 06 00



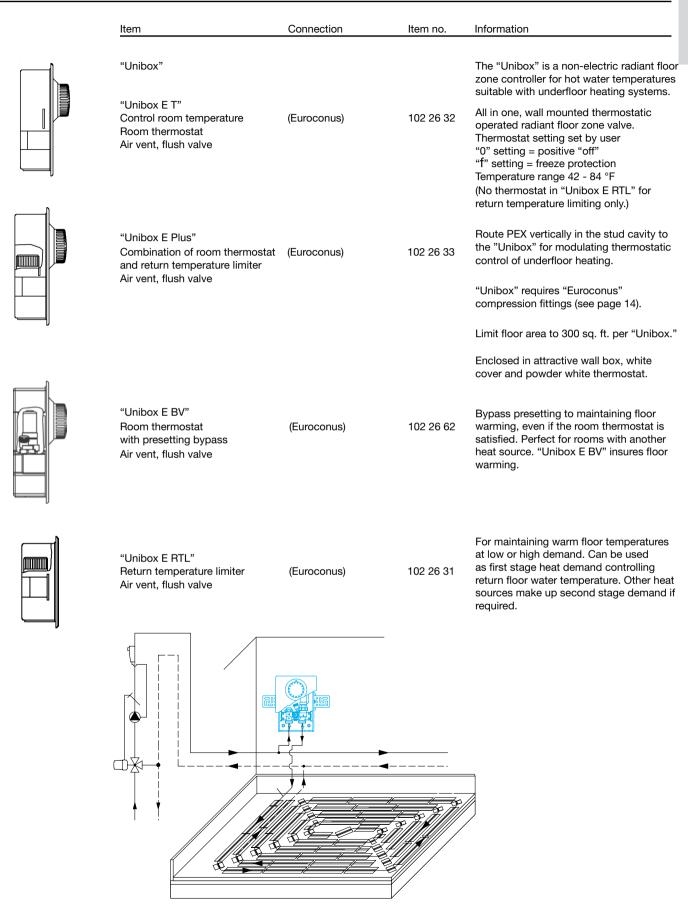
Item	Item no.	Information
Fuel oil filters, transparent cup Brass head, built-in fire/isolation valve, 10 micron sintered plastic element %" female NPT connections Standard "S" filter, 23 GpH  Magnum "M" filter, 34 pH  Bracket Special wrench	263 27 61 263 27 71 212 68 03 212 66 91	
 Fuel filter replacement elements (include O-Ring)  Sintered plastic 10 micron for "S" Filter  Sintered plastic for "M" Filter  Nickel mesh 50 micron (for "S" Filter only)  Sintered bronze 10 micron (for "S" Filter only)	263 28 61 263 28 71 212 61 00 212 60 54	
Fuel filter spare parts  Replacement "S" cup  Replacement "M" cup  Replacement brass union  Replacement O-ring	212 67 51 212 67 55 212 66 00 212 65 00	
Floating suction kit 2" NPT tank, %" fuel line connection Includes check valve and 6ft of suction line for 1-pipe systems for 2-pipe systems	205 36 51 205 36 53	Fuel oil is drawn 2" from the surface.



ltem	Connection	Box qty.	Item no.	Information
Stainless steel manifold 1" for underfloor heating systems for emitter distribution and flow co with "flowmeters" flat sealing, with valve inserts M 30 for thermostatic and electronic cor	) x 1.5			Application: Stainless steel manifold for radiant floor systems. Supply and return loops for emitters—such as baseboards, radiators and convectors—for zone control and or flow control.
for 2 branches for 3 branches for 4 branches for 5 branches for 6 branches for 7 branches for 8 branches for 9 branches for 10 branches			168 41 72 168 41 73 168 41 74 168 41 75 168 41 76 168 41 77 168 41 78 168 41 79 168 41 80	Description: Assembled manifold with fill/drain valves, vent plugs and end caps. Branch connections ¾" male threads for compression fittings "Euroconus," not sold with manifold. Inline zone valves and flow meters. Sound-absorbing brackets.
for 11 branches for 12 branches			168 41 81 168 41 82	1" sweat tails.  Maximum 2 gpm per circuit loop.
"Euroconus" Compression fittings for stainless s "Unibox", panel radiators, etc. US-PEX 1/2" US-PEX 1/2" US-PEX 1/2" Copper 1/2", with soft sealing rubb Copper 1/2", with brass compress	per fitting	(100) (100) (100) (100) (100)	164 68 49 164 68 50 164 68 51 101 68 44 101 68 64	All "Euroconus" sold in pairs.  PEX connections required for radiant floor heating tubing. "Euroconus" compression fitting required for branch connection to stainless steel manifold (above).  Copper fittings for hard pipe in ½" from manifold to emitters, such as for baseboard, panel radiators, and convectors.
Sweat tailpiece 1"BSP/sweat			140 70 08	Sold individually
Coupling nickel plated 3/4" x 1"	BSP/BSP		140 72 06	Connects (2) manifolds.  Maximum number of loops not to exceed 12 per manifold grouping.
Sweat tailpiece with thermometer 1"	BSP/sweat		140 98 06	Sold individually
Double feed adapter 3/4" x 1"	BSP/NPT		140 71 06	Sold individually



# Radiant Heating





	Item	Item no.	Information
	PE-Xc plastic pipe 3/8" OV-PEX O2 Barrier Pipe		
	length per roll 300' length per roll 1000'	460 00 01 - 300 460 00 01 - 000	
	1/2" OV-PEX O2 Barrier Pipe		
	length per roll 300' length per roll 1000'	460 00 02 - 300 460 00 02 - 000	
	5/8" OV-PEX O2 Barrier Pipe		
	length per roll 100' length per roll 1000'	460 00 03 - 100 460 00 03 - 000	
	3/4" OV-PEX O2 Barrier Pipe		
	length per roll 100' length per roll 300' length per roll 500' length per roll 1000'	460 00 04 - 100 460 00 04 - 300 460 00 04 - 500 460 00 04 - 000	
	1" OV-PEX O2 Barrier Pipe length per roll 100' length per roll 300'	460 00 05 - 100 460 00 05 - 300	
	PE-Xa plastic pipe		
	3/8" OV-PEX O2 Barrier Pipe		
	length per roll 300' length per roll 1000'	560 00 01 - 300 560 00 01 - 000	
	1/2" OV-PEX O2 Barrier Pipe		
	length per roll 300' length per roll 1000'	560 00 02 - 300 560 00 02 - 000	
	5/8" OV-PEX O2 Barrier Pipe		
	length per roll 100' length per roll 1000'	560 00 03 - 100 560 00 03 - 000	
	3/4" OV-PEX O2 Barrier Pipe		
	length per roll 100' length per roll 300' length per roll 500' length per roll 1000'	560 00 04 - 100 560 00 04 - 300 560 00 04 - 500 560 00 04 - 000	
	1" OV-PEX O2 Barrier Pipe		
	length per roll 100' length per roll 300'	560 00 05 - 100 560 00 05 - 300	



## Oventrop Corporation Limited Warranty

Oventrop Corporation warrants to its "Customers" that all Oventrop products, used for heating and plumbing applications and sold in accordance with these warranty provisions, shall be free from defects in material and workmanship. "Customer" as used herein shall mean an end-user of Oventrop products.

This limited warranty shall last two (2) years for electric parts (pumps, controls and miscellaneous electric parts), ten (10) years for solar collectors, twenty (20) years for PEX tubing, and five (5) years for all other products (valves and domestic water tanks) from the date of purchase, unless otherwise specified in writing.

In order to be eligible for a warranty claim, Products sold

- (1) must be installed and maintained professionally according to the relevant assembly instructions and the product manual,
- (2) must only be used for purposes provided in the Oventrop Corporation's product description or assembly instructions,
- (3) must be exposed only to gaseous or liquid media approved for the product by Oventrop Corporation, and
- (4) Shall not be combined with products of other manufacturers unless otherwise stated in the product manual.

Oventrop Corporation's sole obligation hereunder shall be, at its option, to issue credit, repair or replace any component or part thereof which is proved to be defective. The limited warranty does not cover cost for transportation or labor charges (including installation and removal) unless such charges are authorized in writing in advance by the Oventrop Corporation. Any repairs without the express written consent of Oventrop Corporation shall render this limited warranty invalid. Oventrop Corporation disclaims allowances for dismounting and consequential losses and damages.

Warranty claims must be received by Oventrop Corporation within the applicable warranty period and within thirty (30) days from when the cause for the claim occurred or was discovered. Upon receipt of prompt notice of a warranty claim, Oventrop Corporation shall have ten (10) business days in which to determine whether it acknowledges responsibility for any asserted defects in material or workmanship and the appropriate action to be taken.

This limited warranty and any claims arising from the breach of warranty, or any other claim arising hereunder, shall be governed and construed under the laws of the State of New York. No other persons than Oventrop Corporation employees have any expressed or implied authority to bind Oventrop Corporation to any agreement or warranty of any kind without the express written consent of Oventrop Corporation.

## Disclaimer of Warranties:

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Oventrop Corp. 2011

# OVENTROP CORP. TERMS AND CONDITIONS OF SALE

These General Terms and Conditions of Sale and Delivery (these "Terms") are applicable to all U.S. customers (the "Customers" and each, individually, a "Customer") of Oventrop Corp., a Delaware corporation (the "Company").

## 1. Terms and Conditions of Sale:

- 1.1 Company shall sell and deliver to Customer and Customer shall purchase and accept from Company the products (herein, the "Products") described on or in any confirmed order, agreement or quotation, or any combination thereof (the "Order"), pursuant to the terms and conditions of the Order and those specified below, which taken together shall constitute the entire agreement between Company and Customer regarding the Products (herein, this "Agreement").
- 1.2 No other terms or conditions shall be of any effect unless otherwise specifically agreed to by Company in a separate written agreement duly signed by an officer of Company. Customer will be deemed to have assented to all Terms if any part of the Products is accepted by Customer. If Customer finds any Term not acceptable, Customer must so notify Company at once and must reject the Products delivered under this Agreement. Any additional or different terms or conditions contained in Customer's order or response hereto shall be deemed objected to by Company and shall be of no effect. No general terms and conditions of a Customer shall at any time form a part of the content of any contract or agreement between the Customer and the Company, even if they are not further expressly rejected by the Company.
- 1.3 No Order is binding upon the Company until the earlier of acceptance of the Order in writing or the delivery of the Products to the Customer. Notwithstanding any prior acceptance of an Order by Company, Company shall have no obligation if the Customer is in breach of any of its obligations hereunder, or any other agreement between the Customer and Company, at the time Company's performance was due.
- 1.4 All verbal agreements concerning the terms of any Order, including agreements made by telephone, shall have no force and effect unless and until acknowledged by the Company in writing.
- 1.5 Customer shall bear all costs associated with the cancellation or modification of the Order.
- 2. Technical Data and Information in Catalogs: All technical data and specifications in catalogs, installation instructions, product documentation, price lists, etc. are bench marks only and are not warranted or guaranteed in any manner by the Company. Oventrop may from time to time adjust such technical data and specifications without notice.

### 3. Prices:

- 3.1 Unless otherwise stated, all price quotations are EX WORKS (per Incoterms 2000) and do not include costs for packaging, postage or other freight charges, insurance or taxes, if any.
- 3.2 Products prices will be governed by the Company's current prices in effect from time. A price list is available on request.
- 3.3 Prices quoted in a currency other than Unites States Dollars are based on the official exchange rate on the date of the quote. Prices will be invoiced on the basis of the currency exchange rate in effect on the date of confirmation of any Order.
- 3.4 Company may without notice to Customer increase the price of the Products by the amount of any new or increased tax or duty (excluding franchise, net income and excess profits taxes) which Company may be required to pay on the manufacture, sale, transportation, delivery, export, import or use of the Products or the materials required for their manufacture or which affects the cost of such materials

## 4. Terms of Payment:

- 4.1 Payment terms are net 30 days from the date of invoice.
- 4.2 Prices for future deliveries of Products will be governed by the Company's current price list then in effect, which is available on request. All pricing information contained in catalogs or price lists of Oventrop is subject to confirmation by Company.
- 4.3 Company may change its prices and delivery terms for Products in its sole discretion, by giving Buyer at least ten (10) days prior notice that there will be a change.
- 4.4 Company may without notice to Buyer increase the price of the Products by the amount of any new or increased tax (excluding franchise, net income and excess profits taxes) which Company may be required to pay on the manufacture, sale, transportation, import, export, delivery or use of the Products or the materials required for their manufacture or which affects the cost of such materials
- 5. Taxes: Purchaser agrees to provide Oventrop with its assigned tax exemption number and agrees to pay, in addition to the purchase price, all applicable sales, use, excise, value added or other similar taxes.

## 6. Delivery Terms

- 6.1 Except as specified elsewhere herein or in any other as otherwise agreed to in writing between Company and Buyer, orders for Products may not be cancelled without Company's prior written consent and the payment of cancellation charges. Company shall specify the cancellation charges upon inquiry by Buyer.
- 6.2 Title to and risk of loss for the Products shall pass to Buyer upon Company's delivery thereof to carrier and any reference in these terms and conditions to "deliver" shall refer to such delivery.
- 6.3 The Customer shall not be liable to Buyer for delays in delivery or damage to Products while in transit, irrespective of whether Customer or Buyer determined the mode of transportation



7. Force Majeure: The Company shall not be liable to Buyer or any other person for any failure or delay in the performance of any obligation under this Agreement due to events beyond its reasonable control, including, but not limited to, fire, storm, flood, earthquake, explosion, accident, acts of the public enemy, wars, riots and public disorder, sabotage, strikes, lockouts, labor disputes, labor shortages, work slowdown, stoppages or delays, shortages or failures or delays of energy, materials, supplies or equipment, transportation embargoes or delays, acts of God, breakdown in machinery or equipment, and, except as otherwise set forth in this Agreement, acts or regulations or priorities of the federal, state or local governments. Buyer shall not be liable for delay or failure to take Products as ordered due to any such event, except that Buyer shall be liable to the Company for such delay or failure with respect to Products already in transit or specially made for Buyer which are not readily saleable without loss to the Company. When the event operating to excuse performance by either party shall cease, this Agreement shall continue in full force until all deliveries have been completed

## 8. Indemnification by Customer:

8.1 Except in cases of Company's willful misconduct or gross negligence, Customer agrees to diligently defend, and to hold harmless and indemnify, Company and its directors, officers, employees, shareholders, affiliates, agents and representatives (the "Company Indemnitees") from and against any and all liability, claims, lawsuits, losses, demands, damages, costs and expenses, including, without limitation, attorney's fees and costs, expert's fees and costs, and court costs, and in each case as such costs are incurred (the "Losses"), (i) arising directly or indirectly out of any use of the Products, whether authorized or unauthorized, and irrespective of whether such claim alleges personal injury, product liability, strict or absolute liability, breach of contract or implied contract or warranty, or any other claim of any nature on any theory of recovery, except to the extent such Losses have been incurred as a direct result of a breach of Company's warranty pursuant to Section 10 or Company's gross negligence or willful misconduct, or (ii) arising out of any breach or misrepresentation of any of Customer's representations or covenants or other terms of this Agreement, including, without limitation, any failure to use or supervise use of the Products strictly in accordance with the User Manual.

8.2 Company will promptly notify Customer of any claim, suit or proceeding that Customer may have indemnification obligations with respect to under this Section; provided, however, that any failure by Company to provide prompt written notice hereunder shall excuse Customer only to the extent that Customer is prejudiced by such failure to give notice. Company shall cooperate with Customer with regard to the defense of any suit or threatened suit. Customer may assume control of the defense of any such claim, proceeding or suit and shall have the authority to settle or otherwise dispose of any such suit or threatened suit, and to appeal any adverse judgment which may be entered, except that Customer must obtain Company's prior written consent to any settlement unless the settlement involves solely the payment of money and all of such payment is payable by Customer, its insurers, and parties other than the Company Indemnitees.

8.3 Customer shall notify Company in writing within 10 days of Customer's receipt of knowledge of any accident or safety incident involving the Products which results in personal injury or damage to property, or any government or similar investigation, claim or inquiry involving the Products. Customer shall fully cooperate with Company in the investigation and determination of the cause of any such accident or incident, and shall make available to Company all statements, reports and tests made by Customer or made available to Customer by others. The furnishing of such information to Company and any investigation by Company of such information or incident report shall not in any way constitute any assumption of any liability for such accident or incident by Company, nor shall it affect the indemnification obligations above.

8.4 Customer represents and warrants that it has in place the necessary insurance and liability waivers to cover the use and operation of the Products by Customer's personnel, customers, and third-party users. In addition, Customer represents and warrants that it maintains a policy of insurance at levels sufficient to support the indemnification obligations assumed by it in this Agreement. Customer will notify Company promptly if Customer's coverage is materially reduced or cancelled.

- 9. Choice of law and forum: These terms and conditions and any order shall be construed and the rights of the parties shall be interpreted in accordance with the laws of New York. The parties agree that courts located in the New York City, borough of Manhattan, shall be the exclusive forum for any dispute arising hereunder or with respect to any order. The parties expressly waive any objections based on personal jurisdiction or venue and consent to service of process by certified mail, return receipt requested.
- 10. Limited Warranty: For Warranty terms, see ATTACHMENT A (Warranty).



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