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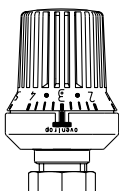
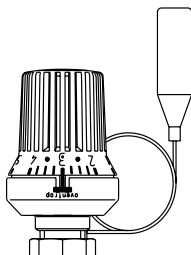
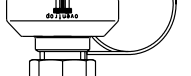
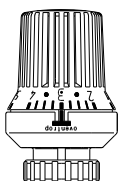
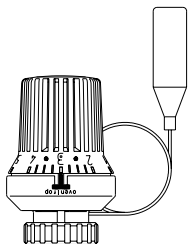
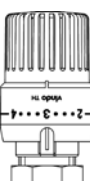
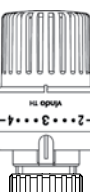
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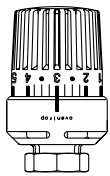
Oventrop's Standard Terms and
Conditions of Sale and Warranty apply.

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.

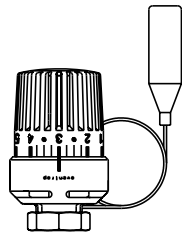
For information on additional items,
please visit our website
www.oventrop-us.com

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

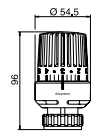
Item	Box qty.	Item no.	Information
 <p>Thermostat "Uni XH" connection thread M 30x1.5 with liquid sensor white model</p>	(10)	101 13 65	<p>These actuators provide a simple means of controlling space temperature by adjusting the flow rate through the heater.</p> <p>Modulating (not on-off) control that enables automatic matching of heat loss.</p> <p>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</p>
 <p>white model with remote sensor capillary 6½ feet</p>	(10)	101 15 65	<p>Temperature range 42 - 84 °F Markings on the dial 0,f, 1-5</p>
 <p>capillary 16 feet</p>	(10)	101 15 66	
 <p>Thermostat "Uni XD" squeeze connection with liquid sensor white model</p>	(10)	101 13 75	<p>These thermostats can be fitted without an adapter to Danfoss valves, series RA (squeeze connection) and Buderus radiators with integrated valve assembly.</p> <p>Squeeze connection with collar nut: easy installation close connection</p>
 <p>white model with remote sensor capillary 6½ feet</p>	(10)	101 15 75	<p>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</p> <p>Temperature range 42 - 84 °F Markings on the dial 0,f, 1-5</p>
 <p>Thermostat "Vindo" connection thread M 30x1.5 with liquid sensor compact white model</p>	(10)	101 30 66	<p>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</p> <p>Temperature range 42 - 84 °F Markings on the dial 0,f, 1-5</p>
 <p>Thermostat "Vindo" squeeze connection with liquid sensor compact white model</p>	(10)	101 30 76	<p>These thermostats can be fitted without an adapter to Danfoss valves, series RA (squeeze connection) and Buderus radiators with integrated valve assembly.</p> <p>Same setting features as "Vindo" above.</p>



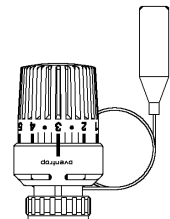
Item	Box qty.	Item no.	Information
Thermostat "Uni LH" connection thread M 30x1.5 with liquid sensor			Temperature setting may be limited or locked by use of internal and tamper-resistant limiting guides. Tool is required for limiting and locking. See page 8 for ring loosening tool. Memory disc to mark favorite setpoint. Maximum heating water temperature 248 °F. "0" setting = positive "off" "f" setting = freeze protection
white model	(10)	101 14 65	
chrome model	(10)	101 14 69	



white model with remote sensor			Temperature range 42 - 84 °F Markings on the dial 0,f, 1-5
capillary 6½ feet	(10)	101 16 65	



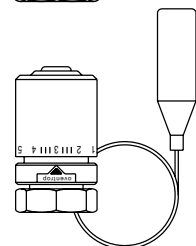
Thermostat "Uni LD" squeeze connection with liquid sensor			
white model	(10)	101 14 75	



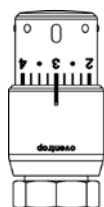
white model with remote sensor			
capillary 6½ feet	(10)	101 16 85	



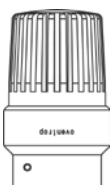
Thermostat "Uni DH" with wax sensor compact model connection thread M 30x1.5			Maximum heating water temperature 248 °F. "0" setting = positive "off" "f" setting = freeze protection
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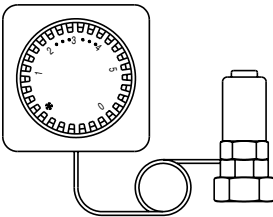
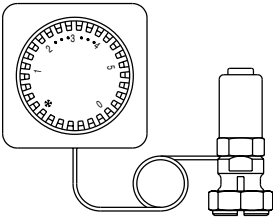
white model	(10)	101 10 65	Temperature range 42 - 84 °F Markings on the dial 0,f, 1-5
white model with remote sensor			Without "0" positive off setting Temperature range 42 - 84 °F Markings on the dial f, 1-5
capillary 6½ feet	(10)	101 11 65	



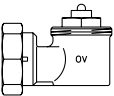
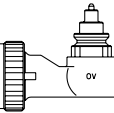

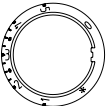

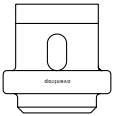

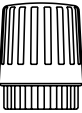

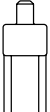

Thermostat "Uni SH" with liquid sensor connection thread M 30 x 1.5 marking "Uni SH" hidden inside			With easy-to-read setting device. Maximum heating water temperature 248 °F. "0" setting = positive "off" "f" setting = freeze protection
white/chrome plated model	(10)	101 20 65	Temperature range 42 - 84 °F Markings on the dial 0,f, 1-5
in stainless steel finish	(10)	101 20 85	With mounted design cover.

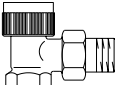
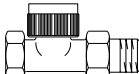

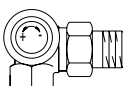
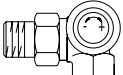
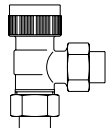
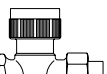

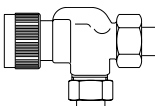


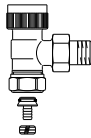
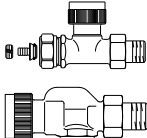
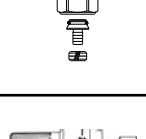
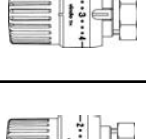
Thermostat "Uni LHB" with liquid sensor connection thread M 30 x 1.5 white model	(10)	101 14 10	Lockshield configuration with integrated anti-theft device. Increased flexional strength up to 220 lbs. Setting key is required for setting the temperature value. See page 8 for setting tool.
			Without "0" positive off setting Temperature range 42 - 84 °F

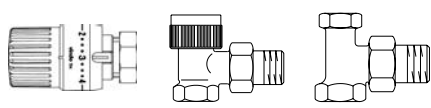
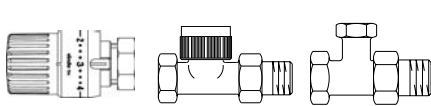
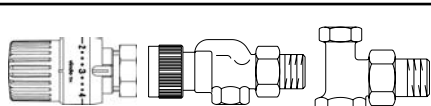
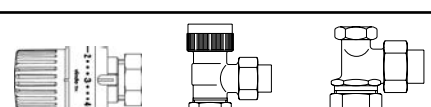
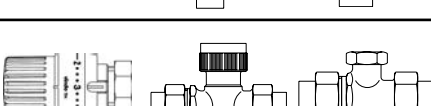
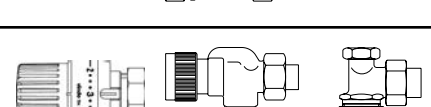
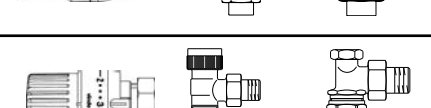
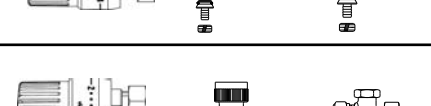
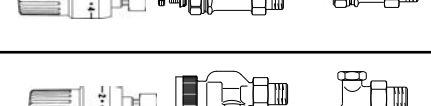
Item	Box qty.	Item no.	Information
for Oventrop zone/radiator valves M 30 x 1.5 connection			
 <p>Thermostat with remote control "Uni FH" with liquid sensor connection thread M 30 x 1.5</p>			<p>Wall-mounted thermostats with remote control and remote transmission (for radiators, baseboard, floor heating, 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</p>
white model			
capillary 6½ feet	(40)	101 22 95	
capillary 16 feet	(40)	101 22 96	
capillary 33 feet	(40)	101 22 97	<p>Temperature range 42 - 84 °F Markings on the dial 0,f, 1-5</p>
white model with additional remote sensor			
capillary 6½ feet	(40)	101 23 95	
capillary 16 feet	(40)	101 23 96	
for Danfoss radiator valves RA squeeze connection			
 <p>Thermostat with remote control "Uni FD" squeeze connection with liquid sensor</p>			<p>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).</p>
white model			
capillary 6½ feet	(40)	101 22 75	<p>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</p> <p>Temperature range 42 - 84 °F Markings on the dial 0,f, 1-5</p>

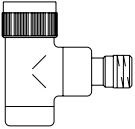
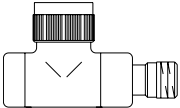





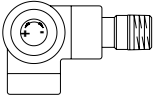
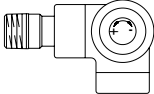
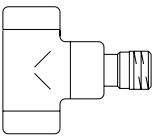
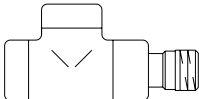

Item	Box qty.	Item no.	Information
Thermostat "Uni XD" squeeze connection with liquid sensor			These thermostats can be fitted without an adapter to Danfoss valves, series RA (squeeze connection) and Buderus radiators with integrated valve assembly.
white model	(50)	101 13 75	Squeeze connection with collar nut: easy installation close connection
white model with remote sensor			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
capillary 6½ feet	(10)	101 15 75	Temperature range 42 - 84 °F Markings on the dial 0,f, 1-5
Thermostat "Uni LD" squeeze connection with liquid sensor white model	(10)	101 14 75	
white model with remote sensor			
capillary 6½ feet	(10)	101 16 85	
Thermostat "Vindo" squeeze connection with liquid sensor Compact			These thermostats can be fitted without an adapter to Danfoss valves, series RA (squeeze connection) and Buderus radiators with integrated valve assembly.
white model	(10)	101 30 76	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
Thermostat with remote control "Uni FD" squeeze connection with liquid sensor			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
white model			
capillary 6½ feet	(40)	101 22 75	Temperature range 42 - 84 °F Markings on the dial 0,f, 1-5

	Item	Box qty.	Item no.	Information
	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	
	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 valves		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.






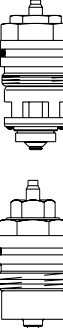
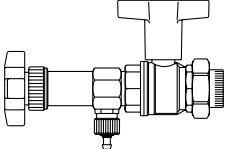
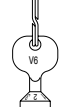
	Item	Connection	Box qty.	Item no.	Information
	Zone/radiator valves Connection thread M 30 x 1.5 bronze/brass, nickel plated				The Oventrop "Series AZ" radiator valves can be used with four types of actuators:
	"Series AZ" (for hot water) Threaded valves				1. Manual adjuster (included) 2. Thermostat (non-electric) 3. Thermostat-remote control (non-electric) 4. 24 V electric for on/off control
	Angle pattern valve	NPT/NPT			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.
	1/2"		(25)	188 90 04	
	3/4"		(25)	188 90 06	
	1"		(10)	188 90 08	
	1 1/4"		(10)	188 90 10	
	Straight pattern valve	NPT/NPT			
	1/2"		(25)	188 91 04	
	3/4"		(25)	188 91 06	
	1"		(10)	188 91 08	
	1 1/4"		(10)	188 91 10	
	Reversed angle pattern valve	NPT/NPT			
	1/2"		(25)	188 92 04	
	3/4"		(25)	188 92 06	
	Double angle pattern valve 1/2" left hand side connection	NPT/NPT			
			(25)	169 40 62	
	Double angle pattern valve 1/2" right hand side connection	NPT/NPT			
			(25)	169 40 63	
	"Series AZ" (for hot water) Sweat valves				
	Angle pattern valve	SWT/SWT			Includes (2) unions and sweat tails.
	1/2"		(25)	169 44 04	
	3/4"		(25)	169 44 06	
	Straight pattern valve	SWT/SWT			
	1/2"		(25)	169 44 14	
	3/4"		(25)	169 44 16	
	Reversed angle pattern valve	SWT/SWT			
	1/2"		(25)	169 44 24	
	3/4"		(25)	169 44 26	
					

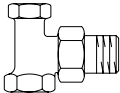
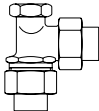
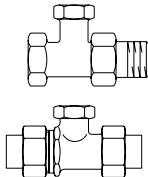
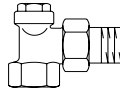
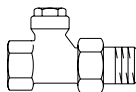
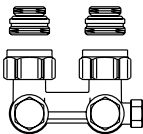
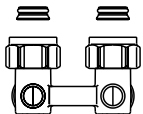


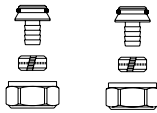
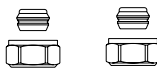
Item	Connection	Box qty.	Item no.	Information
 <p>“Series AZ” (for hot water) Connection thread M 30 x 1.5 bronze/brass, nickel plated PEX valves</p>				<p>PEX connection on inlet to radiator valve.</p> <p>The Oventrop “Series AZ” radiator valves can be used with four types of actuators:</p> <ol style="list-style-type: none"> 1. Manual adjuster (included) 2. Thermostat (non-electric) 3. Thermostat-remote control (non-electric) 4. 24 V electric for on/off control
 <p>Angle pattern valve 1/2"</p>	PEX/NPT	(25)	169 66 04	
 <p>Straight pattern valve 1/2"</p>	PEX/NPT	(25)	169 66 14	All valve inserts are replaceable under working conditions by means of the special tool "Demo-Bloc."
 <p>Reversed angle pattern valve 1/2"</p>	PEX/NPT	(25)	169 66 24	

	<p>1 - Thermostatic radiator valve package with NPT threaded connection for 1/2" pipe, consisting of thermostat 101 30 66, angle pattern valve 188 90 04, and angle pattern lockshield balancing valve 109 10 82</p> <p>Item Number 188 90 04K</p>
	<p>2 - Thermostatic radiator valve package with NPT threaded connection for 1/2" pipe, consisting of thermostat 101 30 66, angle pattern valve 188 92 04, and angle pattern lockshield balancing valve 109 10 82</p> <p>Item Number 188 92 04K</p>
	<p>3 - Thermostatic radiator valve package with NPT threaded connection for 1/2" pipe, consisting of thermostat 101 30 66, straight pattern valve 188 91 04, and straight pattern lockshield balancing valve 109 11 82</p> <p>Item Number 188 91 04K</p>
	<p>4 - Thermostatic radiator valve package with solder connection for 1/2" copper pipe, consisting of thermostat 101 30 66, angle pattern valve 169 44 04, and angle pattern lockshield balancing valve 109 10 92</p> <p>Item Number 169 44 04K</p>
	<p>5 - Thermostatic radiator valve package with solder connection for 1/2" copper pipe, consisting of thermostat 101 30 66, reversed angle pattern valve 169 44 24, and angle pattern lockshield balancing valve 109 10 92</p> <p>Item Number 169 44 24K</p>
	<p>6 - Thermostatic radiator valve package with solder connection for 1/2" copper pipe, consisting of thermostat 101 30 66, straight pattern valve 169 44 14, and straight pattern lockshield balancing valve 109 11 92</p> <p>Item Number 169 44 14K</p>
	<p>7 - Thermostatic radiator valve package with compression connection for 1/2" PEX pipe, consisting of thermostat 101 30 66, angle pattern valve 169 66 04, and angle pattern lockshield balancing valve 109 10 52</p> <p>Item Number 169 66 04K</p>
	<p>8 - Thermostatic radiator valve package with compression connection for 1/2" PEX pipe, consisting of thermostat 101 30 66, reversed angle pattern valve 169 66 24, and angle pattern lockshield balancing valve 109 10 52</p> <p>Item Number 169 66 24K</p>
	<p>9 - Thermostatic radiator valve package with compression connection for 1/2" PEX pipe, consisting of thermostat 101 30 66, straight pattern valve 169 66 14, and straight pattern lockshield balancing valve 109 11 52</p> <p>Item Number 169 66 14K</p>

	Item	Connection	Box qty.	Item no.	Information
	Radiator valves "Series E" Connection thread M 30 x 1.5				Designer series for use with towel racks or panel radiators. Includes valve insert AD6 (6 flow presettings).
	Angle pattern valve 1/2" chrome plated 1/2" white powder coated	BSP		116 30 52 116 30 62	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  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"
	Double angle pattern valve left hand side connection 1/2" chrome plated 1/2" white powder coated	BSP		116 34 52 116 34 62	
	right hand side connection 1/2" chrome plated 1/2" white powder coated	BSP		116 34 53 116 34 63	
	Service valve "Combi E" Angle pattern 1/2" chrome plated 1/2" white powder coated	BSP		116 60 52 116 60 62	Normally used on return side of radiator or towel rack. Allows isolation, balancing with fill and drain capability.
	Straight pattern 1/2" chrome plated 1/2" white powder coated	BSP		116 70 52 116 70 62	
	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.

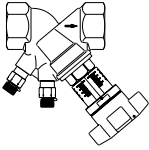
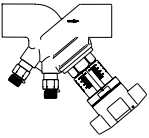
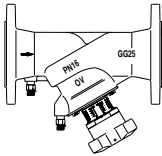
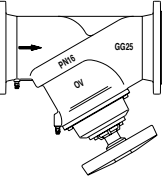
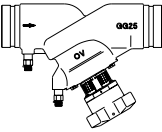
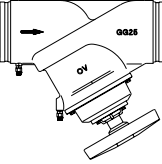
Item	Connection	Box qty.	Item no.	Information
“Series S” (for low pressure steam, max.15 psi) Steam radiator valve Threaded valves				
One-pipe steam radiator valve 1/8”	NPT	(25)	188 85 51	
Angle pattern valve 1/2” 3/4” 1” 1 1/4”	NPT/NPT	(25) (25) (25) (25)	189 90 04 189 90 06 189 90 08 189 90 10	The 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
Straight pattern valve 1/2” 3/4” 1” 1 1/4”	NPT/NPT	(25) (25) (25) (25)	189 91 04 189 91 06 189 91 08 189 91 10	
Reversed angle pattern valve 1/2” 3/4”	NPT/NPT	(25) (25)	189 92 04 189 92 06	
One-pipe radiator injection valves with constant bypass and shut off				The minimum bypass of the one-pipe radiator injection valves is 35%. Bypass cannot be closed.
Connections 1/2” to radiator 3/4” (Euroconus) to system				The insertion tube is 6” long, has a diameter of 7/16” and the distance between pipe centers is 2 inches.
with horizontal insertion tube			118 35 61	
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 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” 1/2”	1.1	106 70 85	Insert for pressure differential of up to 40 psi (for commercial baseboard, etc.).
	3/4”	1.2		
	1”	1.3		
	1 1/4”	1.6		
	“Demo-Bloc” Special tool for replacing Oventrop valve inserts under working conditions for both M 30 x 1.0 and M 30 x 1.5 thread connections		118 80 51	
	Key			
	for flow rate setting on AV 6 / ADV 6 inserts		118 39 61	

	Item	Connection	Box qty.	Item no.	Information
	Service valve "Combi 2" balancing, shut-off Angle pattern brass model, nickel plated 1/2", NPT/NPT		(100)	109 10 82	Used on the return side of radiators, base-board or convectors to provide balancing and shut-off capability. Use 6 mm Allen key.
	3/4", NPT/NPT			109 10 83	All lockshield valves are suitable for use on copper pipes.
	1/2", sweat/sweat		(100)	109 10 92	Sweat connection includes (2) unions and sweat tails.
	Straight pattern brass model, nickel plated 1/2", NPT/NPT		(100)	109 11 82	
	3/4", NPT/NPT		(25)	109 11 83	
	1/2", sweat/sweat		(100)	109 11 92	Sweat connection includes (2) unions and sweat tails.
	Service valve "Combi 4" balancing with memory position, shut-off, filling and draining Angle pattern brass model, nickel plated 1/2", NPT/NPT			109 06 82	Used on the return side of radiators, base-board or convectors to provide balancing with memory stop and shut-off capability. Use 6 mm Allen key.
	3/4", NPT/NPT			109 06 83	All lockshield valves are suitable for use on copper pipes.
	Straight pattern, NPT/NPT brass model, nickel plated 1/2", NPT/NPT			109 07 82	
	3/4", NPT/NPT			109 07 83	
	"Multiflex" fittings for panel radiators with bottom tapplings and built-in valve assembly (such as Buderus, DiaNorm) Preset isolation and diverting valves for one-pipe systems				"Multiflex" fittings are used for radiators with integrated distributors for one and two-pipe systems. "Euroconus" compression fitting required to connect for piping (see below).
	1/2" angle pattern		(10)	101 59 34	Diverting "Multiflex" can be used for two-pipe systems or for one-pipe series loop systems, valve allows setting of flow to next radiators in loop. Preset to one pipe operation for radiator share at 35%.
	1/2" straight pattern		(10)	101 59 33	
	2-pipe isolating valve 1/2" angle pattern			101 58 14	Isolating "Multiflex" is used for two-pipe systems.
	1/2" straight pattern			101 58 13	
	2-pipe isolating valve for reversed connection 1/2" angle pattern			101 64 63	For use with compression fittings.
	1/2" straight pattern			101 63 63	
	Adapter from 1/2" female to 3/4" male (Euroconus) nipple, unplated one port self sealing		(10)	102 82 53	
	"Euroconus" Compression fittings for stainless steel manifolds, "Unibox", panel radiators, etc. US-PEX 3/8"		(100)	164 68 49	All "Euroconus" sold in pairs.
	US-PEX 1/2"		(100)	164 68 50	"Euroconus" compression fitting required for pipe connection to "Multiflex" (above).
	US-PEX 5/8"		(100)	164 68 51	
	Copper 1/2", with soft sealing rubber fitting		(100)	101 68 44	
	Copper 1/2", with brass compression fitting		(100)	101 68 64	

Item	Connection	Box qty.	Item no.	Information
Two-way zone valve 24V actuator two-wire				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.
¾"	sweat/sweat		168 07 52	Cv 3.3
¾"	NPT/NPT		168 07 06	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)
¾" 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.
¾" normally open	sweat/sweat	(25)	169 44 16 ZVO	ZVO 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
½"	0.6 - 4.6 GPM		167 62 04	Sold without actuator.
¾"	0.6 - 4.6 GPM		167 60 06	Minimum 5 psi pressure drop required.
without test points				
½"	0.6 - 4.6 GPM		167 57 04	
¾"	0.6 - 4.6 GPM		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 under-floor 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 actuator (LH) for connection to M30x1.0 threaded valves				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 characteristic	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	
Non-electric actuator with strap-on sensor and transfer unit				
20 – 50 °C (68 – 122 °F)	M30 x 1.5	(10)	114 28 61	Thermostatic operator for controlling supply or return water temperature.
30 – 60 °C (86 – 140 °F)	M30 x 1.5	(10)	114 28 62	Applications include maintaining a mini- mum return temperature to a boiler, and mixing temperature for low and medium temperature emitters such as for radiant panels and radiant floor heating.
40 – 70 °C (104 – 158 °F)	M30 x 1.5	(10)	114 28 63	
50 – 80 °C (122 – 176 °F)	M30 x 1.5	(10)	114 28 64	
M30x1.5 connection.				
Capillary length 6½ ft.				

Item	Connection	Item no.	Information
Bronze balancing valve with NPT female thread			
	DN15 1/2"	NPT/NPT	106 10 04
	DN20 3/4"	NPT/NPT	106 10 06
	DN25 1"	NPT/NPT	106 10 08
	DN32 1 1/4"	NPT/NPT	106 10 10
	DN40 1 1/2"	NPT/NPT	106 10 12
	DN50 2"	NPT/NPT	106 10 16
Bronze balancing valve with solder connection			
	DN15 1/2"	sweat x sweat	106 05 51
	DN20 3/4"	sweat x sweat	106 05 52
	DN25 1"	sweat x sweat	106 05 53
	DN32 1 1/4"	sweat x sweat	106 05 54
	DN40 1 1/2"	sweat x sweat	106 05 55
	DN50 2"	sweat x sweat	106 05 56
Flanged cast iron balancing valve (ANSI)			
 	DN20 3/4"	flange x flange	106 29 46
	DN25 1"	flange x flange	106 29 47
	DN32 1 1/4"	flange x flange	106 29 48
	DN40 1 1/2"	flange x flange	106 29 49
	DN50 2"	flange x flange	106 29 50
	DN65 2 1/2"	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
	DN150 6"	flange x flange	106 29 55
	DN200 8"	flange x flange	106 29 56
	DN250 10"	flange x flange	106 29 57
	DN300 12"	flange x flange	106 29 58
	DN350 14"	flange x flange	106 29 59
Cast iron balancing valve with groove connection			
 	DN65 2 1/2"	groove x groove	106 30 51
	DN80 3"	groove x groove	106 30 52
	DN100 4"	groove x groove	106 30 53
	DN125 5"	groove x groove	106 30 54
	DN150 6"	groove x groove	106 30 55
	DN200 8"	groove x groove	106 30 56
	DN250 10"	groove x groove	106 30 57
	DN300 12"	groove x groove	106 30 58

"Hydrocontrol" calibrated manual balancing valves have a multi-turn handle for presetting and memory stop.

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

Item	Description	Item no.	Information
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“Hydrocontrol-R” Coil Hookup Kit*

*Connections must be specified at time of order. See below.

DN15	½”	166 10 04
DN20	¾”	166 10 06
DN25	1”	166 10 08
DN32	1¼”	166 10 10
DN40	1½”	166 10 12
DN50	2”	166 10 16

Specifying connections for the coil kit, **F** = FNPT, **M** = MNPT, **S** = 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	FxF	SF	Balancing valve	SxS
	Y-strainer	FxF		Y-strainer	SxF
	Union fitting	FxF		Union fitting	SxF
FM	Balancing valve	FxF	SM	Balancing valve	SxS
	Y-strainer	FxM		Y-strainer	SxM
	Union fitting	FxM		Union fitting	SxM
FS	Balancing valve	FxF	SS	Balancing valve	SxS
	Y-strainer	FxS		Y-strainer	SxS
	Union fitting	FxS		Union fitting	SxS

“Hydrocontrol” calibrated manual balancing valves have a multi-turn handle, for presetting and memory stop.

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.

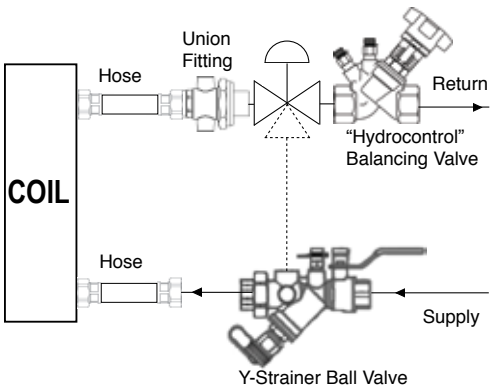
The Oventrop strainer coil kit is an assembly for the supply side of a fan coil unit or air handler. Each assembly consists of a Y-strainer, ball valve, PT port, and drain. A union connection at the strainer is male, female, or sweat. A sweat or female connection is available on the ball valve end.

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.

“Hydrocontrol-R” Coil Hookup Kit

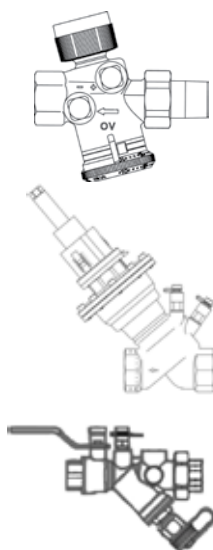


Stainless Steel Flex Hoses for Coil Hookup Kit

DN15	½”	18” Length, Single hose	106 10 15-18
DN20	¾”	18” Length, Single hose	106 10 20-18
DN25	1”	18” Length, Single hose	106 10 25-18
DN32	1¼”	18” Length, Single hose	106 10 32-18
DN40	1½”	18” Length, Single hose	106 10 40-18
DN50	2”	18” Length, Single hose	106 10 50-18
DN15	½”	24” Length, Single hose	106 10 15-24
DN20	¾”	24” Length, Single hose	106 10 20-24
DN25	1”	24” Length, Single hose	106 10 25-24
DN32	1¼”	24” Length, Single hose	106 10 32-24
DN40	1½”	24” Length, Single hose	106 10 40-24
DN50	2”	24” Length, Single hose	106 10 50-24
DN15	½”	30” Length, Single hose	106 10 15-30
DN20	¾”	30” Length, Single hose	106 10 20-30
DN25	1”	30” Length, Single hose	106 10 25-30
DN32	1¼”	30” Length, Single hose	106 10 32-30
DN40	1½”	30” Length, Single hose	106 10 40-30
DN50	2”	30” Length, Single hose	106 10 50-30

Hose connection is FNPT union x MNPT

Item	Description		Item no.	Information
“Hydrocontrol” Y-Strainer Ball Valve				
DN15	½”	FNPTxFNPT	166 80 01	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, a ball valve, a PT port, and a drain. A union connection at the strainer is male, female, or sweat. A sweat or female connection is available on the ball valve end.
DN20	¾”	FNPTxFNPT	166 80 03	
DN25	1”	FNPTxFNPT	166 80 05	
DN32	1¼”	FNPTxFNPT	166 80 07	
DN40	1½”	FNPTxFNPT	166 80 09	
DN50	2”	FNPTxFNPT	166 80 11	
DN15	½”	SWTxSWT	166 81 02	Oblique pattern strainer for vertical and horizontal installation. Bronze body, with wire basket made of stainless steel.
DN20	¾”	SWTxSWT	166 81 04	
DN25	1”	SWTxSWT	166 81 06	
DN32	1¼”	SWTxSWT	166 81 08	
DN40	1½”	SWTxSWT	166 81 10	
DN50	2”	SWTxSWT	166 81 14	
DN15	½”	FNPTxSWT	166 81 01	
DN20	¾”	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	½”	SWTxFNPT	166 80 02	
DN20	¾”	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	½”	SWTxMNPT	166 82 02	
DN20	¾”	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	½”	FNPTxMNPT	166 82 01	
DN20	¾”	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
	Regulating valve "Cocon Q" basic hookup set Two-way control valve and Y-strainer ball 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
1/2"	0.6 - 4.6 GPM, MNPT/FNPT	167 82 04	
3/4" LF	0.6 - 4.6 GPM, MNPT/FNPT	167 80 06	
3/4"	0.8 - 5.7 GPM, MNPT/FNPT	167 81 06	
1"	1.3 - 8.8 GPM, MNPT/FNPT	167 81 08	
1 1/4"	2.6 - 15.8 GPM, MNPT/FNPT	167 81 10	Sold without actuator.
1 1/2"	6.3 - 33 GPM, FNPT/FNPT	166 81 12	
2"	11 - 44 GPM, FNPT/FNPT	166 81 16	



	Regulating valve "Cocon Q" fan coil hookup kit		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.
1/2"	0.6 - 4.6 GPM, SWT/MNPT	167 90 04	
3/4" 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	
1 1/4"	2.6 - 15.8 GPM, SWT/MNPT	167 90 10	

Actuator connection M30 x 1.5

Sold without actuator.



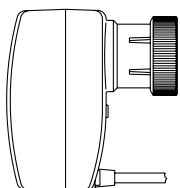
	Electrothermal actuator 24 V, power "off", normally closed, M30 x 1.5 four-wire with end switch	101 24 96	
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	24 V, power "off", normally closed, M30 x 1.5 two-wire only	101 28 16	
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	24V, power "off", normally open, M30 x 1.5 two-wire only	101 28 26	
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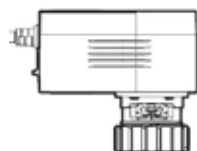


	Electrothermal actuator 0-10V for temperature mixing, M30 x 1.5 or proportional flow normally closed	101 29 52	
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	Electromotive actuator 0-10V, with switchable characteristic, M30 x 1.5	101 27 05	
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	Electromotive actuator 24V, 3-point floating, M30 x 1.5	101 27 01	
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	Electromotive actuator, 24V 0-10V, or switching as 2 or 3 point floating control, Squeeze type	115 80 10	
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For use with sizes 1/2" and 3/4" LF

Compact design.

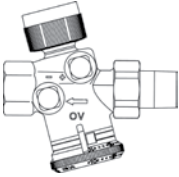
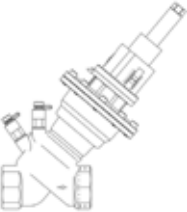
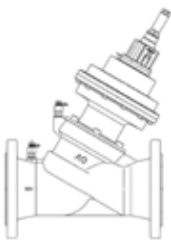


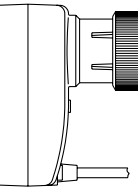
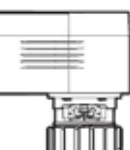



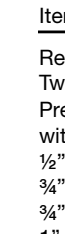
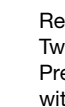
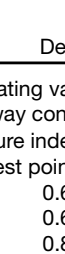
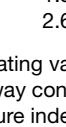
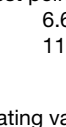
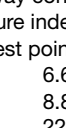
End switch can be used to start a pump through a relay. Cable 32" (4 wires).

Actuation time: 3 minute full stroke

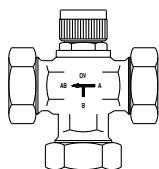
For use with sizes 1/2" through 1 1/4"

For use with sizes 1 1/2" and 2"

Actuator characteristic switchable:
Linear, equal percentage, or x²

Item	Description	Item no.	Information
	Regulating valve "Cocon Q"		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
	Two-way control valve		
	Pressure independent		
	with test points		
	½" 0.6 - 4.6 GPM, MNPT/FNPT	167 62 04	
	¾" LF 0.6 - 4.6 GPM, MNPT/FNPT	167 60 06	
	¾" 0.8 - 5.7 GPM, MNPT/FNPT	167 61 06	Sold without actuator.
	1" 1.3 - 8.8 GPM, MNPT/FNPT	167 61 08	
	1¼" 2.6 - 15.8 GPM, MNPT/FNPT	167 61 10	
	Regulating valve "Cocon Q"		
	Two-way control valve		
	Pressure independent		
	with test points		
	1½" 6.6 - 33 GPM, FNPT/FNPT	166 61 12	
	2" 11 - 44 GPM, FNPT/FNPT	166 61 16	
	Regulating valve "Cocon Q"		
	Two-way control valve		
	Pressure independent		
	with test points		
	1½" 6.6 - 33 GPM, Flanged	167 61 49	
	2" 8.8 - 35.2 GPM, Flanged	167 61 50	
	2½" 22 - 88 GPM, Flanged	167 61 51	
	3" 33 - 132 GPM, Flanged	167 61 52	
	4" 55 - 220 GPM, Flanged	167 61 53	
	5" 119 - 396 GPM, Flanged	167 61 54	
	6" 158 - 660 GPM, Flanged	167 61 55	
	Electrothermal actuator		For use with sizes ½" and ¾" LF
	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	101 28 16	Compact design.
	two-wire only		
	24V, power "off", normally open, M30 x 1.5	101 28 26	End switch can be used to start a pump through a relay. Cable 32" (4 wires).
	two-wire only		
	Electrothermal actuator		Actuation time: 3 minute full stroke
	0-10V for temperature mixing, M30 x 1.5	101 29 52	
	Electromotive actuator		For use with sizes ½" through 1¼"
	0-10V, with switchable characteristic, M30 x 1.5	101 27 05	
	Electromotive actuator		
	24V, 3-point floating, M30 x 1.5	101 27 01	
	Electromotive actuator, 24V		For use with sizes 1½" and 2"
	0-10V, or switching as 2		
	or 3 point floating control, Squeeze type	115 80 10	Actuator characteristic switchable: Linear, equal percentage, or x ²
	Electromotive actuator, 24V		For use with sizes 2½" through 6"
	0-10V, or 4 to 20ma, or switching		
	as 2 or 3 point floating control, Squeeze type	115 80 30	Actuator characteristic switchable: Linear, equal percentage, or x ²

Item	Description	Item no.	Information



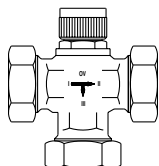
Three-way mixing valve

bronze

3/4"	Cv 5.2, Union connection	113 17 06
1"	Cv 7.6, Union connection	113 17 08
1 1/2"	Cv 11.0, Union connection	113 17 12

Actuator connection M 30 x 1.5

With 3 unions to accept threaded or sweat tailpieces (not included).



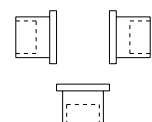
Three-way diverting valve

bronze

3/4"	Cv 5.2, Union connection	113 02 06
1"	Cv 7.6, Union connection	113 02 08
1 1/2"	Cv 11.0, Union connection	113 02 10

Actuator connection M 30 x 1.5

With 3 unions to accept threaded or sweat tailpieces (not included).

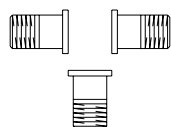


Sweat tailpiece/3-fold

3/4"	sweat connection	198 76 72
1"	sweat connection	198 76 73
1 1/4"	sweat connection	113 01 96
1 1/2"	sweat connection	198 76 75

Order one set per three way valve for complete installation kit.

1 1/4" tailpiece for 1 1/2" three-way body.

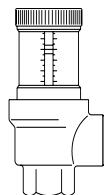


NPT tailpiece/3-fold

3/4"	NPT connection	170 60 06
1"	NPT connection	170 60 08
1 1/4"	NPT connection	170 60 10
1 1/2"	NPT connection	170 60 12

Order one set per three way valve for complete installation kit.

1 1/4" tailpiece for 1 1/2" three-way body.

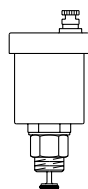


Pressure actuated bypass valve
bronze/brass with indicator

3/4"
1"
1 1/4"

Connection	Box qty.	Item no.	Information
NPT	(20)	165 98 06	Adjustable from 2 - 17 ft. of head. Bypass valve to maintain adequate boiler flow and reduce system velocity noises.
NPT	(6)	165 98 08	
NPT	(6)	165 98 10	

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

1/8" without stop

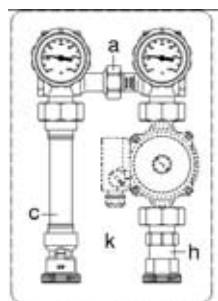
NPT	(100)	108 83 81
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Without automatic stop valve.

1/2" with stop

NPT	(100)	108 83 84
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Airbleed can be removed from the system, taken apart and cleaned without draining.



"Regumat 130" pumping stations

"Regumat S-130" pumping station

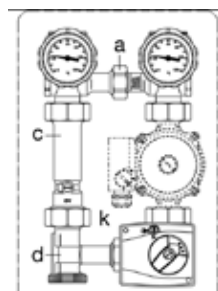
DN25 1", with Star 16 pump
DN25 1", with high efficiency pump

167 50 86
168 50 71HE

System "Regumat" for the connection from the boiler to the pipework.

The products are supplied as a complete system for 1" pipework, size DN 25.
To heating loop:
1" FNPT
To boiler:
1" FNPT

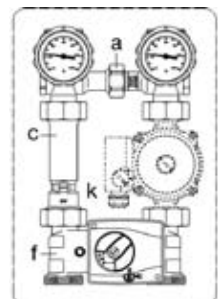
Consisting of:
a. isolation device with two ball valves and two thermometers
b. temperature controller with immersion sensor
c. pipe with check valve
d. three-way mixing valve
e. high temperature safety cut-off
f. four-way mixing valve and actuator
h. spacer
k. insulation case



"Regumat M3-130" for three-way mixing

DN25 1", with Star 16 pump
DN25 1", with high efficiency pump

168 52 85
168 52 71HE



Regumat M4-130 for four-way mixing

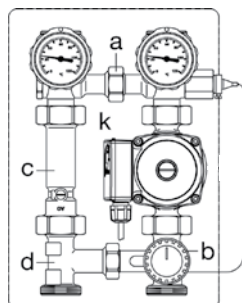
DN25 1", with Star 16 pump

168 54 85

"Regumat" valves are made of brass or bronze. All "Regumat" valves are designed for a pressure of to 145 psi, PN 10.

For Star 16 pumps, the differential pressure relief device may be added to "Regumat" pumping stations (see item 135 33 90 below). Purchased separately.

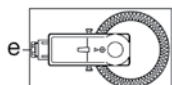
"Regumat" Advantages:
– high functional efficiency
– all components from one supplier
– complete systems available
– high quality materials
– time-saving installation
– insulation housing prevents energy loss



Regumat F-130 for fixed temperature control

DN25 1", with Star 16 pump
DN25 1", with high efficiency pump

168 41 71S
168 41 71HE



Differential pressure relief device for converting "Regumat" to include pressure bypass

135 33 90

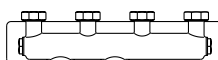
Differential pressure relief device for converting "Regumat" S, M3, M4 - 130
Wall bracket for "Regumat 130"



Wall bracket for "Regumat 130"

135 20 96

Manifold distributor with insulation for "Regumat 130"

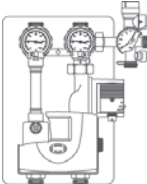


Manifold distributor for "Regumat 130"

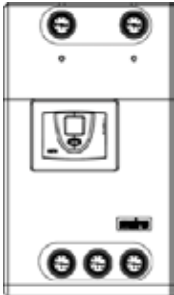
135 15 71

For 2 "Regumat" stations on one manifold. With insulation casing.

Item	Description	Item no.	Information
Evacuated tube collectors			
OV 5-16, with 16 tubes	540 00 16	Connection tees and sensor port are not included with the collector. They are packaged with the mounting hardware of each and cannot be purchased separately.	
OV 5-8, with 8 tubes	540 00 08		
Evacuated tube solar hot water kits			
80-gallon evacuated tube kit	540 00 16K		
119-gallon evacuated tube kit	540 00 17K		
Evacuated tube collector connection kits			
Collector connection kit, seamless joint	540 00 21		
Evacuated tube collector mounting racks			
Tilt mount rack	540 00 28K	Blocks are sold individually. A minimum of four (4) are required for each collector.	
Flush mount rack	540 00 28-FM		
Spanish tile rack	540 00 28-TK		
Standing metal seam mounting blocks	540 00 28-S5		
Flat plate 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 plate solar hot water kits			
“Recession Buster” solar hot water kit	540 03 07K		
80-gallon flat plate kit	540 04 08K		
119-gallon flat plate kit	540 34 08K		
Flat plate collector mounting racks			
Tilt mount rack	540 00 28-FP	Blocks are sold individually. A minimum of four (4) are required for each collector.	
Flush mount rack	540 00 28-FPFM		
Strut mounting clips	540 00 28-FC		
Standing metal seam mounting blocks	540 00 28-S5		



Item	Description	Item no.	Information
			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
	“Regusol EL130” solar pumping station	169 80 65	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.



	“Regusol X” heat exchanger solar pumping station				The “Regusol X” pumping station is designed for medium sized systems where the tank does not have an internal heat exchanger. The “Regusol X” has an integrated brazed plate heat exchanger and is pre-wired for easy installation.
	“Uno 15” with 50,000 BTUH heat exchanger	167 10 61			
	“Uno 25” with 85,500 BTUH heat exchanger	167 10 95			
	“Duo 15” with 50,000 BTUH heat exchanger	167 10 51			
	“Duo 25” with 85,500 BTUH heat exchanger	167 10 45			The “Regusol X Duo” is fitted with a pre-wired three-way valve for multiple tank installations.

Solar working fluid

Pre-mixed 50% propylene glycol, 5 gallon pail	540 00 91
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Solar valves for system commissioning and maintenance

Fill and flush valve	136 30 51
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Solar piping

3/4” stainless steel lineset, 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 plate collectors	540 00 21-LSA	The line set adapter is required to use the line set with flat plate collectors.

Item	Item no.	Information
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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-SCEG
119-gallon	540 01 19-SCG
119-gallon with electric element	540 01 19-SCEG

Dual coil glass lined solar storage tanks

80-gallon	540 00 80-G
80-gallon with electric element	540 00 80-DCEG
119-gallon	540 01 19-G
119-gallon with electric element	540 01 19-DCEG

Large capacity double glass lined solar storage tanks with steel jacket



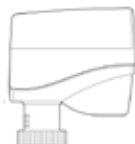
210-gallon	540 02 10-DGSJ
310-gallon	540 03 10-DGSJ
435-gallon	540 04 35-DGSJ

Large capacity double glass lined solar storage tanks with top coat insulation

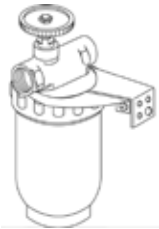
210-gallon	540 02 10-DGTC
310-gallon	540 03 10-DGTC
435-gallon	540 04 35-DGTC



Item	Item no.	Information
Wall thermostat		EnOcean wireless protocol. Pair up to four actuators to one thermostat.
Programmable with night set-back	115 06 00	



Valve actuator		
with connection M30 x 1.5	115 06 01	



Fuel oil filters, transparent cup
Brass head, built-in fire/isolation valve,
10 micron sintered plastic element
3/8" female NPT connections

Standard "S" filter, 23 GpH	263 27 61
Magnum "M" filter, 34 pH	263 27 71
Bracket	212 68 03
Special wrench	212 66 91



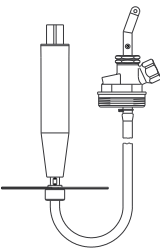
Fuel filter replacement elements (include O-Ring)

Sintered plastic 10 micron for "S" Filter	263 28 61
Sintered plastic for "M" Filter	263 28 71
Nickel mesh 50 micron (for "S" Filter only)	212 61 00
Sintered bronze 10 micron (for "S" Filter only)	212 60 54



Fuel filter spare parts

Replacement "S" cup	212 67 51
Replacement "M" cup	212 67 55
Replacement brass union	212 66 00
Replacement O-ring	212 65 00

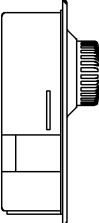
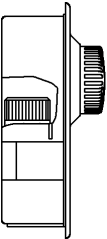
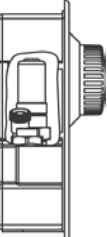
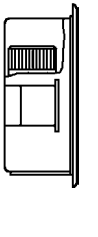



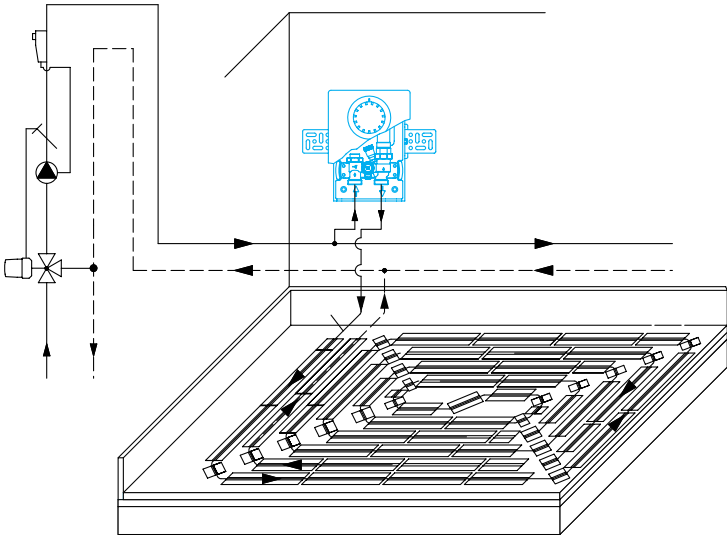
Floating suction kit
2" NPT tank, 3/8" fuel line connection
Includes check valve and 6ft of suction line

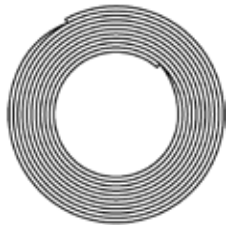
Fuel oil is drawn 2" from the surface.

for 1-pipe systems	205 36 51
for 2-pipe systems	205 36 53

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

Item	Connection	Item no.	Information
 “Unibox”			The “Unibox” is a non-electric radiant floor zone controller for hot water temperatures suitable with underfloor heating systems.
 “Unibox E T” Control room temperature Room thermostat Air vent, flush valve	(Euroconus)	102 26 32	All in one, wall mounted thermostatic operated radiant floor zone valve. Thermostat setting set by user “0” setting = positive “off” “f” setting = freeze protection Temperature range 42 - 84 °F (No thermostat in “Unibox E RTL” for return temperature limiting only.)
 “Unibox E Plus” Combination of room thermostat and return temperature limiter Air vent, flush valve	(Euroconus)	102 26 33	Route PEX vertically in the stud cavity to the “Unibox” for modulating thermostatic control of underfloor heating. “Unibox” requires “Euroconus” compression fittings (see page 14). Limit floor area to 300 sq. ft. per “Unibox.” Enclosed in attractive wall box, white cover and powder white thermostat.
 “Unibox E BV” Room thermostat with presetting bypass Air vent, flush valve	(Euroconus)	102 26 62	Bypass presetting to maintaining floor warming, even if the room thermostat is satisfied. Perfect for rooms with another heat source. “Unibox E BV” insures floor warming.
 “Unibox E RTL” Return temperature limiter Air vent, flush valve	(Euroconus)	102 26 31	For maintaining warm floor temperatures at low or high demand. Can be used as first stage heat demand controlling return floor water temperature. Other heat sources make up second stage demand if required.





PE-Xc plastic pipe
3/8" OV-PEX O2 Barrier Pipe

length per roll 300'	460 00 01 - 300
length per roll 1000'	460 00 01 - 000

1/2" OV-PEX O2 Barrier Pipe

length per roll 300'	460 00 02 - 300
length per roll 1000'	460 00 02 - 000

5/8" OV-PEX O2 Barrier Pipe

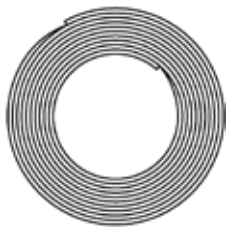
length per roll 100'	460 00 03 - 100
length per roll 1000'	460 00 03 - 000

3/4" OV-PEX O2 Barrier Pipe

length per roll 100'	460 00 04 - 100
length per roll 300'	460 00 04 - 300
length per roll 500'	460 00 04 - 500
length per roll 1000'	460 00 04 - 000

1" OV-PEX O2 Barrier Pipe

length per roll 100'	460 00 05 - 100
length per roll 300'	460 00 05 - 300



PE-Xa plastic pipe

3/8" OV-PEX O2 Barrier Pipe

length per roll 300'	560 00 01 - 300
length per roll 1000'	560 00 01 - 000

1/2" OV-PEX O2 Barrier Pipe

length per roll 300'	560 00 02 - 300
length per roll 1000'	560 00 02 - 000

5/8" OV-PEX O2 Barrier Pipe

length per roll 100'	560 00 03 - 100
length per roll 1000'	560 00 03 - 000

3/4" OV-PEX O2 Barrier Pipe

length per roll 100'	560 00 04 - 100
length per roll 300'	560 00 04 - 300
length per roll 500'	560 00 04 - 500
length per roll 1000'	560 00 04 - 000

1" OV-PEX O2 Barrier Pipe

length per roll 100'	560 00 05 - 100
length per roll 300'	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 dismantling 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:

OVENTROP CORPORATION DISCLAIMS ANY WARRANTY NOT PROVIDED HEREIN INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. IT IS EXPRESSLY UNDERSTOOD THAT OVENTROP CORPORATION IS NOT RESPONSIBLE FOR ANY CONSEQUENTIAL OR OTHER DAMAGES THAT MAY ARISE FROM USING OVENTROP CORPORATION SYSTEM COMPONENTS. DAMAGE RESULTING FROM WATER FREEZING IN THE TUBING DOES NOT CONSTITUTE A DEFECT IN MATERIAL OR WORKMANSHIP, AND SHALL NOT BE COVERED BY THIS WARRANTY. OVENTROP-TUBING MAY NOT BE STORED IN DIRECT SUNLIGHT FOR ANY PERIOD LONGER THAN THREE WEEKS, OR THIS LIMITED WARRANTY BECOMES INVALID. OVENTROP CORPORATION DISCLAIMS ANY STATUTORY OR IMPLIED WARRANTY OF HABITABILITY. OVENTROP CORPORATION FURTHER DISCLAIMS ANY RESPONSIBILITY FOR LOSSES; EXPENSES; INCONVENIENCES; AND SPECIAL, INDIRECT, SECONDARY, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING FROM OWNERSHIP OR USE OF THE ARTICLES SOLD HEREUNDER. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE FACE HEREOF.

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 United 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, stop-pages 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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