Appendix to Application Guide – District Heating control

Control Products & Systems OEM

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6. Overview of functions and planning

	Type/functions	Climatix		Sigmagyr			
		POL638.x0/DH	POL426.50	RVD125	RVD145	RVD255	RVD265
Application	Pump or mixing heating circuit	4	1[1]	1	1	1	2
	D.h.w. heating	2	1[1]	1	1	1	1
	Precontrol	3	1[1]			1	
	Buffer control	■					
	Solar control	■			■	■	■
	Plant diagram	Freely selectable	Freely selectable	3	8	28	14
Special functions	Automatic pressure maintenance, refill function	■	■	■	■	■	■
	Suppression of hydraulic creep	■	■	■	■	■	■
	Solar and wind compensation	■	■				
	Efficiency check based on data logging	■	■				
	Sensor selection (different sensor characteristics)	■	■				
	Floor curing function	■					
	Variable pump control	DC 0...10 V	PWM, DC 0...10 V			PWM	PWM
	Load management	■	■			■	■
Limitations	Maximum limitation of return temperature	■	■	■	■	■	■
	Difference of return temperatures	■	■	■	■	■	■
	Volume/output together with heat meter	■	■			■	■
Operating units	Plug-in type operator unit	POL638.70 Clear-text, 4 lines		1-ine display	1-ine display	1-ine display	1-ine display
	Operator unit (HMI) Selectable operating mode of plant, date and time of day, temperature setpoints, failure information, info button, etc.	POL822.70 1...4 pieces	POL822.70	QAA50.110	QAA50.110	QAA50.110	QAA50.110 1...2 Stück
	Operator unit for installation in cabinets Clear-text and graphic display with 8 lines, multi-language, backlit display white/blue, degree of protection IP65	POL871.71 POL871.72	POL871.71 POL871.73				
	Operator unit for use in rooms Clear-text and graphic display with 8 lines, multi-language, backlit display and rotary knob	POL895.51	POL895.51				
Sensors	Outside, strap-on and immersion temperature sensor	All standard characteristics	All standard characteristics	LG-Ni1000	LG-Ni1000	LG-Ni1000	LG-Ni1000
	Pressure sensor delivering DC 0...10 V signal, very low sensitivity to temperature, high temperature resistance	QBE9001	QBE9001			QBE9001	QBE9001
	Solar sensor, fast and accurate acquisition of solar radiation, DC 0...10 V or DC 4...20 mA signal	QLS60	QLS60				

[1] Application can be loaded for Scandinavian countries, can also be used in other countries

7. Interfaces, connection and communication

Bus systems/ communication	Climatix controller		Climatix POL6xx communication modules						Sigmagyr		Communication interfaces	
	POL426.50	POL638.x0/DH1	POL906.00	POL907.00	POL908.00	POL904.00	POL909.50	POL909.80	RVD12x, RVD14x	RVD25x, RVD26x	OZW672..	OZW772..
Modbus IP		■										
Modbus RTU	■	■							■			
M-bus	■[1]			■[1]						■[2]		
KNX	■[3]	■[3]										■
BACnet IP					■			■				
BACnet MS/TP	■					■						
TCP/IP		■					■	■			■	■
JSON		■										
LON			■									
LPB										■	■	

[1] Master

[2] Slave

[3] Not certified

8. Valves, actuators and applications

	2-port valves					Characteristics	VVP459..	VVG549..	VVG41..	VVF43..	VVF53..	MVF461H	VHG519..	VSG519..
Hydraulic parameters						Valve type	2-port valve	2-port valve	2-port valve	2-port valve	2-port valve	2-port valve	Combi valve	Combi valve
						Rated pressure	PN 16	PN 25	PN 16	PN 16	PN 25	PN 16	PN 25	PN 25
						DN	10...40	15...25	15...50	65...150	15...150	15...150	15 .. 50	15 .. 50
						k_{vs} [m^3/h]	0.63...25	0.25...6.3	0.63...40	50...360	0.16...400	0.6...30	2.5 ...28.5	2.5 ...28.5
						Temperature range [°C]	1...120 [1]	1...150 [1]	-25...150	-20...220	-20...220	1...180	1...150	1...150
						Max. differential pressure [kPa]	75...350	800...1200	300...800	100...800	350...1200	1000	1600	1600
	Product no.	Pos. force	Power supply	Pos. signal	Running time	Designation								
Small stroke actuators	SSA31	100 N	AC 230 V	3-position	150 s	Electromotoric actuator								
	SSA61	100 N	AC 240 V	DC 0...10 V	34 s	Electromotoric actuator								
	SSY319	250 N	AC 230 V	3-position	150 s	Electromotoric actuator	▪	▪						
	SAS31.03	400 N	AC 230 V	3-position	30 s	Electromotoric actuator	▪	▪						
	SAS31.53	400 N	AC 230 V	3-position	30 s fail-safe function	Electromotoric actuator	▪	▪						
	SAT31.008	300 N	AC 230 V	3-position	8 s	Electromotoric actuator	▪	▪						
	SAT31.51	300 N	AC 230 V	3-position	15 s fail-safe function	Electromotoric actuator	▪	▪						
	SAS61.03	400 N	AC/DC 24 V	DC 0...10 V	30 s	Electromotoric actuator	▪	▪						
	SAS61.53	400 N	AC/DC 24 V	DC 0...10 V	30 s fail-safe function	Electromotoric actuator	▪	▪						
	SAT61.008	300 N	AC/DC 24 V	DC 0...10 V	8 s	Electromotoric actuator	▪	▪						
	SAT61.51	300 N	AC/DC 24 V	DC 0...10 V	15 s fail-safe function	Electromotoric actuator	▪	▪						
Large stroke actuators	SAX319.00	800 N	AC 230 V	3-position	120 s	Electromotoric actuator			▪		≤DN 50			
	SAX319.03	800 N	AC 230 V	3-position	30 s	Electromotoric actuator			▪		≤DN 50			
	SAX619.03	800 N	AC/DC 24 V	DC 0...10 V	30 s	Electromotoric actuator			▪		≤DN 50			
	SKD32.21E	1000 N	AC 230 V	3-position	30 s fail-safe function	Electrohydraulic actuator			▪		≤DN 50			
	SKD329.51	1000 N	AC 230 V	3-position	0 sfail-safe functi	Electrohydraulic actuator			▪		≤DN 50			
	SKB32.51	2800 N	AC 230 V	3-position	120 s fail-safe function	Electrohydraulic actuator			▪		≤DN 50			
	SKC32.61	2800 N	AC 230 V	3-position	0 sfail-safe functi	Electrohydraulic actuator				▪	≥DN 65			
	MVF461H	-	AC/DC 24 V	DC 0...10 V	>2 s fail-safe function	Electromagnetic actuator						Pos. time 2 s		

1) Short-time

	Product no.	Pos. forc	Power supply	Pos. signal	Running time	Designation	VXP459..	VXG41..	MXG461B	VPP46..	VPF43..
3-port and pressure-independent valves						Characteristics					
Hydraulic parameters						Valve type	3-port valve	3-port valve	3-port valve	Combi valve	Combi valve
						Rated pressure	PN 16	PN 16	PN 16	PN 25	PN 16
						DN	10...40	15...150	15...150	15...32	50 .. 150
						k_{vs} [m^3/h]	0.63...25	1.6...40	0.6...30	30 .. 4000 l/h	3.2 .. 160
						Temperature range [°C]	1...120[1)]	-25...150	-20...130	1...110	1...120
						Max. differential pressure [kPa]	75...350	300...800	600...1000	400	600
Small stroke actuators	SSA31	100 N	AC 230 V	3-position	150 s	Electromotoric actuator				▪	
	SSA61	100 N	AC 240 V	DC 0...10 V	34 s	Electromotoric actuator				▪	
	SSY319	250 N	AC 230 V	3-position	150 s	Electromotoric actuator	▪				
	SAS31.03	400 N	AC 230 V	3-position	30 s	Electromotoric actuator	▪				
	SAS31.53	400 N	AC 230 V	3-position	30 s fail-safe function	Electromotoric actuator	▪				
	SAT31.008	300 N	AC 230 V	3-position	8 s	Electromotoric actuator	▪				
	SAT31.51	300 N	AC 230 V	3-position	15 s fail-safe function	Electromotoric actuator	▪				
	SAS61.03	400 N	AC/DC 24 V	DC 0...10 V	30 s	Electromotoric actuator	▪				
	SAS61.53	400 N	AC/DC 24 V	DC 0...10 V	30 s fail-safe function	Electromotoric actuator	▪				
	SAT61.008	300 N	AC/DC 24 V	DC 0...10 V	8 s	Electromotoric actuator	▪				
	SAT61.51	300 N	AC/DC 24 V	DC 0...10 V	15 s fail-safe function	Electromotoric actuator	▪				
Large stroke actuators	SAX319.00	800 N	AC 230 V	3-position	120 s	Electromotoric actuator		▪			≤DN 80
	SAX319.03	800 N	AC 230 V	3-position	30 s	Electromotoric actuator		▪			≤DN 80
	SAX619.03	800 N	AC/DC 24 V	DC 0...10 V	30 s	Electromotoric actuator		▪			≤DN 80
	SKD32.21E	1000 N	AC 230 V	3-position	30 s fail-safe function	Electrohydraulic actuator		▪			
	SKD329.51	1000 N	AC 230 V	3-position	0 sfail-safe functi	Electrohydraulic actuator		▪			
	SKB32.51	2800 N	AC 230 V	3-position	120 s fail-safe function	Electrohydraulic actuator		▪			
	SKC32.61	2800 N	AC 230 V	3-position	0 sfail-safe functi	Electrohydraulic actuator					
	MXG461B	-	AC/DC 24 V	DC 0...10 V	>2 s fail-safe function	Electromagnetic actuator			Pos. time 2 s		

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