

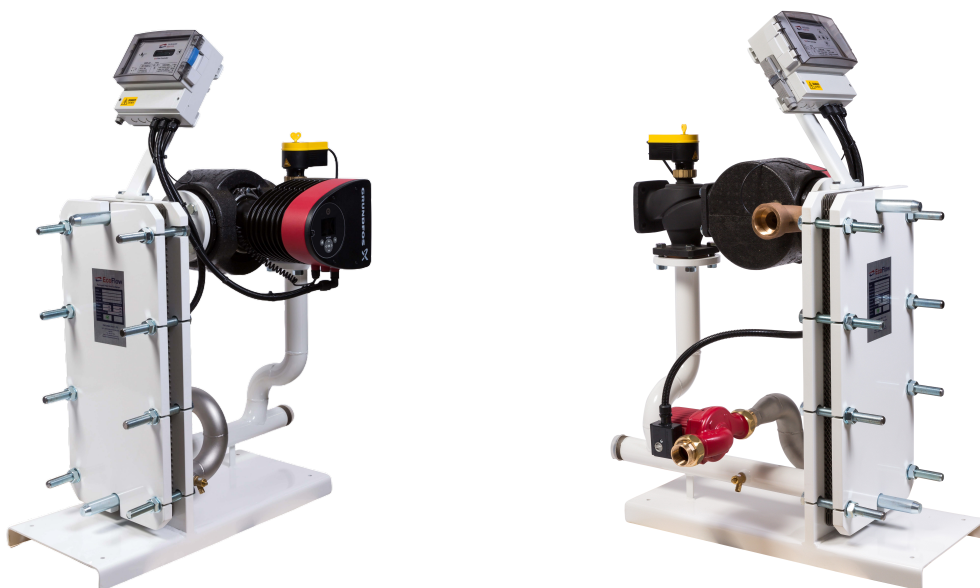


Virdis Energy GP3 Series

50-120 Technical Documentation



Manufacturer:	Virdis Energy OEM		
Model:	GP Series 3xx- 50/120		
Type:	Packaged pumped 3 port control valve		
Continuous Output At 60°C:	litres/sec	2.47 -5.36	
Secondary temperatures:	°C	10 -60	
Primary temperature:	°C	80	
Primary flow rate:	litres/sec	3.79 - 6.18	
Duty:	kW	517 - 1120	
Power supply:	230v, 1phase, 50 Hz		
Pumps:	Grundfos Magna 3 50-120 primary		
Controls:	GP Series Controller		



Technical Specification GP Series 50-120

Operating Criteria	Rear Chassis Plate (Stationary):	Epoxy coated steel 25mm thick
	Front Chassis Plate (Moveable):	Epoxy coated steel 20mm thick
	Heat Transfer Plate:	316 grade stainless steel
	Gaskets:	EPDM
	Retaining Bolts:	20mm carbon steel
Connections	Maximum Primary Side Temperature:	110 °C
	Maximum Primary Side Pressure:	10.0 Bar
	Maximum Secondary Side Pressure:	6.0 Bar
	Primary Side Water Connections (standard):	Inlet - Cast Iron, DN50, PN10 Outlet - 2" BSPM
	Secondary Inlet Connection (Cold Water Feed):	Bronze 2" BSPF
	Secondary Outlet Connection (Hot Water Service Flow):	Bronze 2" BSPF
	Secondary Hot Water Service Return Connection:	Bronze 1 1/4" BSPM (or 1 1/4" BSPF when +1R HWS secondary recirc' pump fitted)
Primary Components	Primary Pump (c/w Volt Free Trip Terminals):	Magna3 40-120F (1-phase) (or Magna3 D 50-120F on Duplex units)
	Primary Control Valve:	3-port, Cast Iron, DN50, PN10
	Primary Control Valve Actuator:	230V, modulating, motor open/close
Control Panel	ABS enclosure Electronic PID temperature controller 7-day time clock control of 2 temperature settings or 1 temperature and night "off", per day Safety extra low voltage (SELV) circuit for external "clock" control of 2 temperatures of operation or 1 temperature set point and "off" Safety extra low voltage (SELV) circuit for an external interlock Adjustable high limit and low limit temperature alarms, temperature alarm lamp, common volt free temperature alarm and selectable high temperature lockout modes Functional indication of: primary pump enable (P1 or P2) and valve open/closing LCD digital display of day and time, secondary flowtemperature and any faults Pump mode seletion including Duplex primary pump duty share and auto-changeover on pump fault (if fitted). Full menu driven interrogation of parameters and operating modes. 500mA control fuse, 10A outpufuse	

Optional Extras:-

Duplex (Twin-Head) Primary Pump: (c/w Duty Share and Auto-changeover on Pump Fault as standard) (c/w Duty Share and Auto-changeover on Pump Fault as standard)	Magna3 D 50-120F (1-phase)
HWS Secondary Recirculation Pump (+1R):	UPS 32-55N (1-phase) (c/wbronze NRV)
HWS Secondary Transfer Pump (+1T) (dependent on model):	Magna3 40-80FN (1 Phase) or Magna 3 40-120FN (1-phase)
Additional Primary ShutOff Kit: Valve Actuator c/w Additional High Limit Thermostat	2-port, DZR Cast Brass Body, RP 11.5", PN40 230V, motor open/spring close 230V, manual reset, IP54
Additional High Limit Thermostat Only:	230V, manual reset, IP54
Primary Control Valve Actuator Positional Indication:	Auxiliary Changeover Contacts Only Potentiometer Only (1 or 2 kQ) Auxiliary Changeover Contacts and Potentiometer (1 or 2 kQ)
ISO Flexible Thermal Insulation Jacket.	
Additional Metal Cover to suit ISO Flexible Thermal Insulation Jacket.	

Dimensions and Weight (Excluding Options):	
Dimensions - Length x Width x Height	865 x 537 x 1165 mm
Weight (Maximum)	250kg
Performace Details	From 148.2 to 321.6 litres per minute of hot water at 60°C.

Performance & Selection Guide

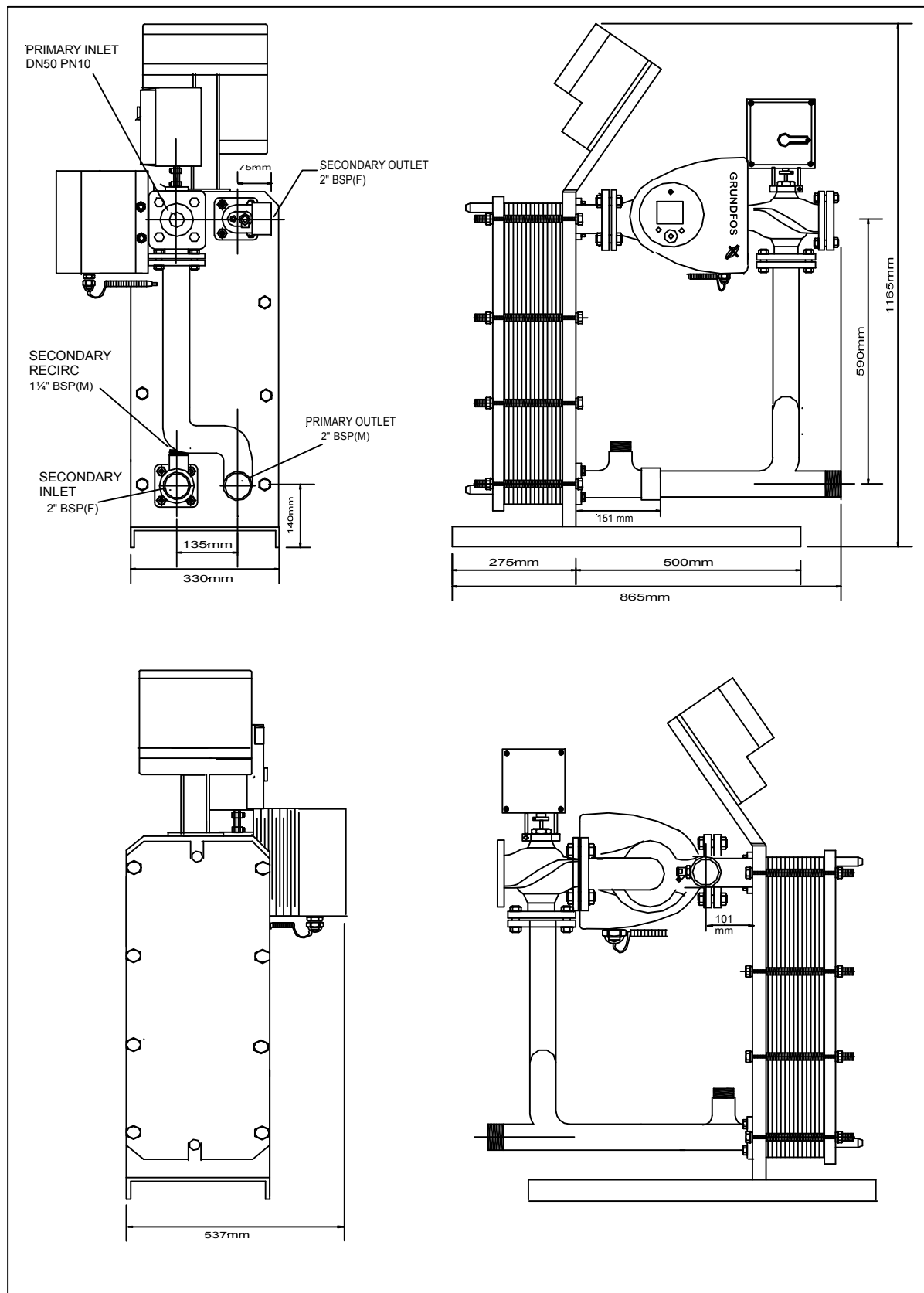
		GP	GP	GP	GP	GP	GP	GP	GP	GP	GP	GP	GP	GP	GP
		22	26	30	34	38	42	46	50	54	58	62	66	70	74
Heat Load Required / Max. Duty	kW	517	600	678	740	802	849	892	943	988	1015	1045	1078	1099	1120
Secondary Flow Rate at 60°C	l/s	2.47	2.87	3.24	3.54	3.84	4.06	4.27	4.51	4.73	4.86	5	5.16	5.26	5.36
	m ³ /h	8.9	10.3	11.7	12.7	13.8	14.6	15.4	16.2	17	17.5	18	18.6	18.9	19.3
Secondary Pressure Drop at Peak Output	kPa	23	22	21	20	19	18	17	16	16	15	14	13	12	12
Primary Flow Rate at 80°C	l/s	3.79	4.24	4.65	4.9	5.18	5.35	5.47	5.7	5.86	5.9	6	6.1	6.15	6.18
	m ³ /h	13.6	15.3	16.7	17.6	18.6	19.3	19.7	20.5	21.1	21.2	21.6	22	22.1	22.2
Primary Min.Head Available	kPa	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Primary Return Temp, at Peak Output	°C	48	47	46	44	43	42	41	41	40	39	39	38	37	37
Approximate Head Available from Optional Secondary Recirculation Pump at:															
Recirculation Rate of 0.5m3/h	kPa	48	49	49	49	49	49	49	49	49	49	49	49	49	49
Recirculation Rate of 1.0m3/h	kPa	39	40	41	41	42	42	42	42	42	42	42	42	42	42
Recirculation Rate of 2.0m3/h	kPa	22	24	26	28	29	30	31	31	31	32	32	32	32	32
"Tourist Hotel" by No. of Rooms		94	120	147	171	193	212	229	249	269	281	295	312	321	333
"Luxury Hotel" by No. of Rooms		64	80	97	110	127	139	149	161	175	183	191	201	207	215
Number of "Standard Flats"		158	201	248	289	332	367	398	434	469	492	520	552	569	587
Number of "Luxury Flats"		113	146	183	213	245	272	295	325	352	369	390	414	427	441
Hospital or Nursing Home by No. of Rooms		194	251	307	357	405	446	481	522	561	589	620	653	674	691
Leisure Centre or Sp		53	70	88	103	121	133	144	160	175	186	197	208	217	225

Notes

This selection guide uses diversity factors; actual site requirements should always be checked. For simultaneous operation of outlets calculate separately.

- * "Tourist Hotel" assumes a room with one shower and one wash hand basin.
- * "Luxury Hotel" assumes a room with one bath or one shower and one wash hand basin.
- * "Standard Flats" are classed as having one sink, one wash hand basin and one shower.
- * "Luxury Flats" are classed as having one sink, two wash hand basins and one bath.
- * Standard fittings are assumed in all cases.
- * For applications, kW duties, temperatures and pressure drops not listed, please contact Virdis Energy for an alternative sizing/selection.

**Mechanical Drawing – GP Series 3xx- 50/120 Instantaneous
Excluding Secondary Pump:**



Recommended Minimum Clearances for Maintenance:
450mm front, 300mm pump side, 150mm other side



Phone: 0333 567 1121

Email: hello@virdis.energy

www.virdis.energy

Virdis Energy, 201 High St, Henley-in-Arden B95 5BA