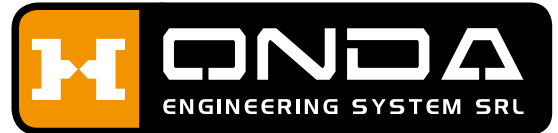


**GEOKAL**



## Radiant heating and geothermal manifolds

**ONDA ENGINEERING SYSTEM srl**

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## GEOKAL MANIFOLD FOR VERTICAL GEOTHERMAL PROBES

**GEOKAL** is the first plastic modular manifold in the market with 2" header connection for geothermal probes and complete of mounting brackets. Each circuit (1" connection) can be individually closed and connected with PE pipe till 40 mm. Every manifold is equipped with an insulating kit.



CODE	OUTLETS	DIMENSIONS mm.
GEO00002000	2+2	295 x 200 x adj.
GEO00003000	3+3	405 x 200 x adj.
GEO00004000	4+4	515 x 200 x adj.
GEO00005000	5+5	625 x 200 x adj.
GEO00006000	6+6	735 x 200 x adj.
GEO00007000	7+7	845 x 200 x adj.
GEO00008000	8+8	955 x 200 x adj.
GEO00009000	9+9	1065 x 200 x adj.
GEO00010000	10+10	1175 x 200 x adj.
GEO00011000	11+11	1285 x 200 x adj.
GEO00012000	12+12	1395 x 200 x adj.
GEO00013000	13+13	1505 x 200 x adj.
GEO00014000	14+14	1615 x 200 x adj.
GEO00015000	15+15	1725 x 200 x adj.

### Its main features includes:

- Perfect modularity and flexibility of adaptation to any use
- Totality of the components
- Guaranteed working
- Anti-condensation
- Resistant to chemical agent, UV rays, etc.
- Extremely low charge loss

### Performance (with water, glycol solutions):

Max percentage of glycol:	50%
Standard working pressure:	1,5÷2,5 bar
Max working pressure:	6 bar
Test pressure:	8 bar
Temperature range:	-10÷82°C
Manifold connection:	2" x 2"
Outlets connection:	M35 x 2 - 1"
Centers distance:	110 mm

Highly technological thermoplastic material are used to obtain such characteristics.

The component material is standard grade polyamid reinforced with 50% glass fibres glass which permits the attainment of the mechanical characteristics similar to those of light alloys, but with a decisively higher resistance to the atmospheric agents.

### Materials:

#### Supply/Return module

body:	PAE777
spacer:	PAE777
knob:	ABS
screw:	C15
nut:	CW614N
stem:	CW614N
insert:	CW614N
O-rings:	NBR70
M35x2 connection:	CW614N
1" connection:	CW614N

#### Kit

2" head / end part:	CW617N
brackets:	INOX
screws:	C15
threaded rod:	FE37 zincato CR3
brass parts:	CW617N
drain valve:	PA6
O-rings:	NBR70

The design and construction of the modules allow for additions to the heater circuit with minimal increase in resistance thus allowing for reduced flow temperatures.

The characteristics of the manifold prevent the formation of calcium deposits thus guaranteeing limitless durability.

## FLOW RATE METER

### Direct hydraulic balancing valve for the measurement of flow through geothermal systems.



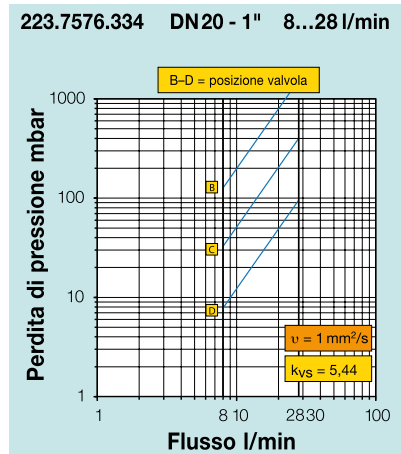
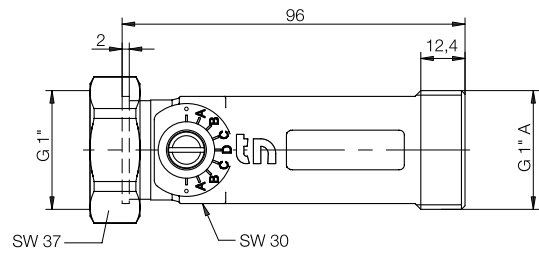
The valve can be installed in every return module in a horizontal or vertical position.

The flow measurement is based on the principle of a baffle float with return spring.

The balancing can be carried out with a screwdriver at the adjusting screw. It's also available the Bypass valve version.

#### Technical data

- Max operating pressure: 8 bar
- Max operating temperature: 100 °C
- Measuring accuracy:  $\pm 10\%$  of the highest nominal value
- Kvs see graphs.
- Thread G (cylindrical) acc. to ISO 228
- Seals material : EPDM
- Flat-sealing connections



## DISTRIBUTION MANIFOLD REGULATION - LOAD LOSS



POLITECNICO DI MILANO

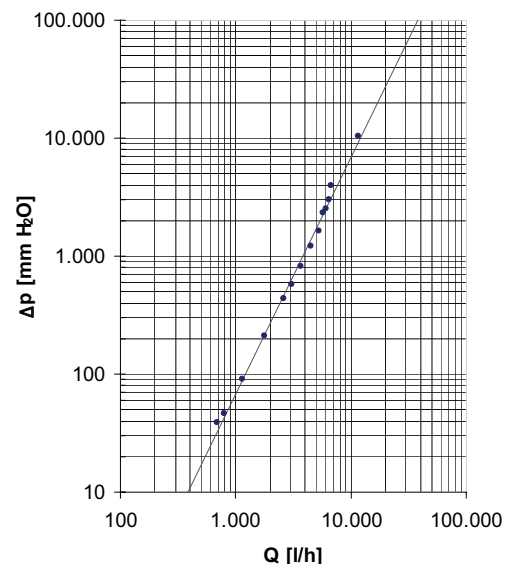
DIPARTIMENTO DI INGEGNERIA IDRAULICA, AMBIENTALE,  
INFRASTRUTTURE VIARIE, RILEVAMENTO

The company has been co-operating from 2007 with Department of Hydraulic Engineering "G. Fantoli" of Milan University. The University will be the independent institution that will certify every test done on the manifolds.



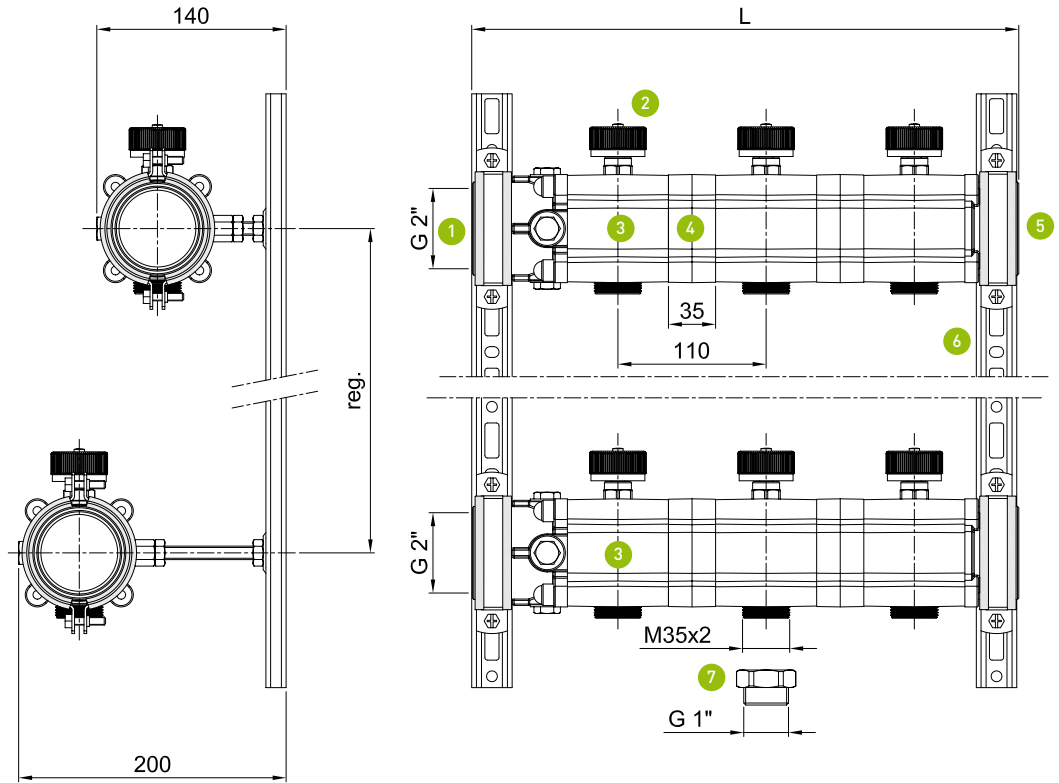
Tab. 1

prova	Q (l/h)	$\Delta p$ (mm)	Kv
1	698	39	111,8
2	799	46	117,8
3	1.134	90	119,5
4	1.796	210	123,9
5	2.632	440	125,5
6	3.085	575	128,7
7	3.672	825	127,8
8	4.500	1.220	128,8
9	5.242	1.630	129,8
10	5.679	2.330	117,7
11	6.091	2.500	121,8
12	6.516	3.000	119,0
13	6.786	3.950	108,0
14	11.520	10.450	112,7
	$K_{vm}$		120,9
	sqm		6,7

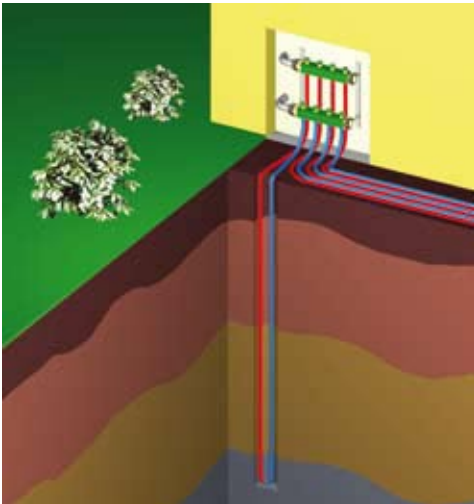


# TECHNICAL DATA

- 1 2" brass head
- 2 Open/close handle
- 3 Supply/return module
- 4 Spacer
- 5 Brass terminal
- 6 Metals brackets
- 7 1" brass/adaptor



# lines	2	3	4	5	6	7	8	9	10	11	12	13	14	15
L	295	405	515	625	735	845	955	1065	1175	1285	1395	1505	1615	1725



Module



Insulating kit

