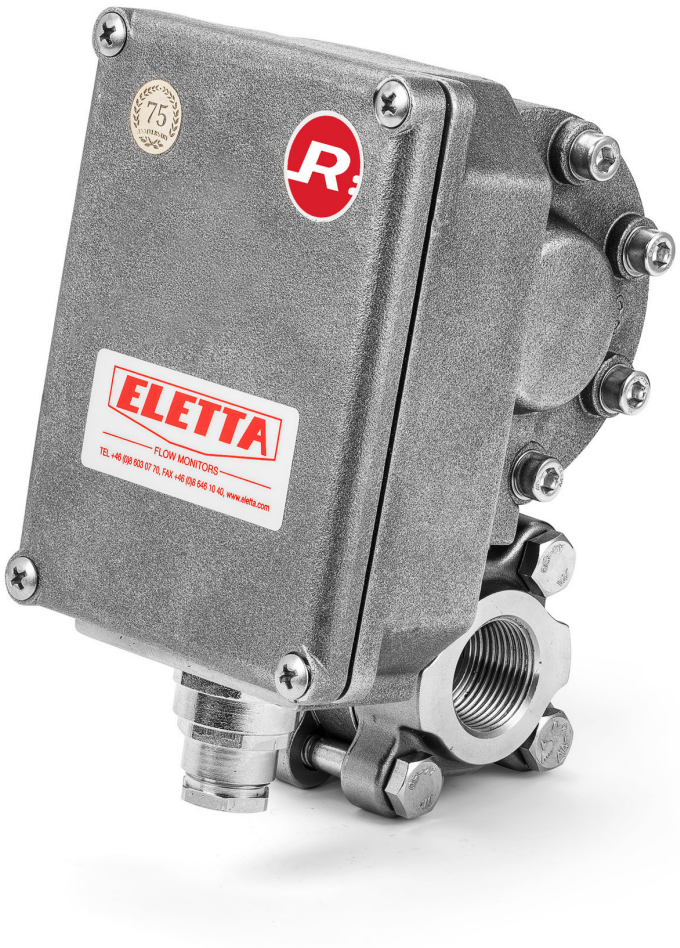
ELETTA®
FLOW MONITORS

ROBUST HIGH QUALITY FLOW MONITORS

RC, RS, RH

Mechanical Flow Transmitter for Liquids or Gases



The Eletta Flow Monitor's function is based on the proven and dependable differential pressure principle.

This is perhaps the oldest and most widely used principle for flow metering, mainly because of its simplicity and its relatively low cost.

The R-series takes advantage of the Eletta® proprietary robust and sturdy design. It combines the long proven mechanical reliable function with an electronic circuit providing electrical outputs linear to Flow of liquids or gases. The R-series Flow Transmitter is giving a 4-20 mA analog linear output, representing the flow.

The design gives highly repeatable output signal. The analog output is a linear current 4-20 mA & HART. Like all Eletta Flow Monitors the R-series can monitor both liquids and gases.

- Monitoring flows in cooling and lubricating circuits
- Antifreeze protection of heat pump systems
- Dry out protection
- Can measure both liquids and gases
- Low cost solution for difficult flow applications
- Interchangeable control units to fit all pipe sections
- Measurement not affected by static pressure
- Replaceable Orifice

The R-series Flow Transmitter

The Eletta Flow Monitor's function is based on the proven and dependable differential pressure principle. This is perhaps the oldest and most widely used principle for flow metering, mainly because of its simplicity and its relatively low cost.

The R-series takes advantage of the Eletta® proprietary robust and sturdy design. It combines the long proven mechanical reliable function with a potentiometer providing electrical outputs linear to Flow of liquids or gases.

The R-series Flow Transmitter is capable to give 4-20 mA and HART signal output, representing the flow. The design gives highly repeatable output signal.

The R-series comes in two measuring ratios designated R2 and R5, which means that the R2 has a measuring span of 1:2 and the R5 has a span of 1:5.RC version is only availble in R5. Like all Eletta Flow Monitors the R-series can monitor both liquids and gases.

Modular design

The Instrument consists of two parts mainly, i.e. the Pipe Section and the Control Unit. The Pipe Section is the part that is to be mounted in the process pipe and the Control Unit is mounted directly (standard) or remote to the Pipe Section.

All Control Units, including the R-series, can be fitted to any of the various Eletta Flow Monitor Pipe Sections to suit your application. As the control unit is pre-calibrated before leaving our production facilities, you can change Pipe Sections to fit other dimensions and materials than originally ordered. The Control Unit contains the potentiometer which is giving you the Flow information through a transmitter with 4-20 mA and HART signal output.

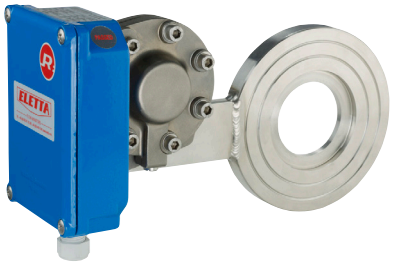
The Pipe Section comes in Copper alloy, Stainless Steel, Steel and sizes from DN 15/PN16 (ANSI 1/2"/150 lbs) up to DN 500/PN16 (ANSI 20"/150 lbs).

The R-series Control Unit can also be used to complement an already installed Eletta Flow Monitor such as the D-, S- or V-series.

Eletta Specials

Separate Version
The Pipe Section has a flanged (wafer) process pipe connection, and the material is powder coated carbon steel C45E (1.1191) from 15 mm up to size 400 mm (½"– 16")

R-GSS
The Pipe Section is made from stainless Steel and comes with BSP/NPT threads in size 15, 20 and 25 mm (1/2", 3/4" and 1").



R-FSS
The Pipe Section comes in stainless steel and has the same "fit between flanges" (wafer) execution as the -FA series and process connections from 15 mm to 500 mm (1/2"–20").

Web Configurator
Visit our website and configurate your own Eletta Flow Monitor.
www.eletta.com

Measuring Ranges Eletta Flow Monitors

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R2 (50 - 200 mbar)					
Dimension		l/min	Dimension		l/min
1/2" DN 15	GL, GSS, FA, FSS	0,4 - 0,8	2" DN 50	FA, FSS	40 - 80
		0,6 - 1,2			60 - 120
		1 - 2			80 - 160
		1,6 - 3,2			120 - 240
		2 - 4			160 - 320
		2,4 - 4,8	2 1/2" DN 65	FA, FSS	60 - 120
		3,2 - 6,4			80 - 160
		4 - 8			120 - 240
		6 - 12			160 - 320
		8 - 16			240 - 480
		10 - 20			280 - 560
		12 - 24	3" DN 80	FA, FSS	120 - 240
		16 - 32			160 - 320
3/4" DN 20	GL, GSS, FA, FSS	4 - 8			240 - 480
		6 - 12			320 - 640
		8 - 16			400 - 800
		10 - 20	4" DN 100	FA, FSS	160 - 320
		12 - 24			280 - 560
		16 - 32			400 - 800
		20 - 40			600 - 1200
1" DN 25	GL, GSS, FA, FSS	8 - 16			700 - 1400
		10 - 20	5" DN 125	FA, FSS	400 - 800
		12 - 24			600 - 1200
		16 - 32			800 - 1600
		24 - 48			1000 - 2000
		36 - 72	6" DN 150	FA, FSS	600 - 1200
		40 - 80			800 - 1600
	FA, FSS	50 - 100			1200 - 2400
1 1/4" DN 32	GL, FA, FSS	20 - 40			1400 - 2800
		28 - 56			1500 - 3000
		40 - 80	8" DN 200	FA, FSS	800 - 1600
		60 - 120			1200 - 2400
		80 - 160			1600 - 3200
1 1/2" DN 40	GL, FA, FSS	20 - 40			2400 - 4800
		28 - 56			2500 - 5000
		40 - 80	10" DN 250	FA, FSS	1600 - 3200
		60 - 120			2000 - 4000
		80 - 160			3200 - 6400
	FA, FSS	100 - 200			4000 - 8000

R5 (22 - 550 mbar)					
Dimension		l/min	Dimension		l/min
1/2" DN 15	GL, GSS, FA, FSS	0,4 - 2	2 1/2" DN 65	FA, FSS	20 - 100
		1 - 5			50-250
		2 - 10			100 - 500
		4 - 20			160 - 800
		6 - 30	3" DN 80	FA, FSS	40 - 200
		8 - 40			80 - 400
3/4" DN 20	GL, GSS, FA, FSS	4 - 20			160 - 800
		6 - 30			240 - 1200
		8 - 40	4" DN 100	FA, FSS	80 - 400
		15 - 75			160 - 800
1" DN 25	GL, GSS, FA, FSS	6 - 30			250 - 1250
		12 - 60			400 - 2000
		16 - 80	5" DN 125	FA, FSS	100 - 500
		24 - 120			200 - 1000
	FA, FSS	30 - 150			400 - 2000
1 1/4" DN 32	FA, FSS	8 - 40			600 - 3000
		20 - 100	6" DN 150	FA, FSS	200 - 1000
		40 - 200			400 - 2000
		50 - 250			600 - 3000
1 1/2" DN 40	GL, FA, FSS	8 - 40			900 - 4500
		20 - 100	8" DN 200	FA, FSS	400 - 2000
		40 - 200			600 - 3000
		60 - 300			1000 - 5000
2" DN 50	FA, FSS	20 - 100			1500 - 7500
		40 - 200	10" DN 250	FA, FSS	600 - 3000
		70 - 350			1000 - 5000
		100 - 500			1600 - 8000
					2400 - 12000

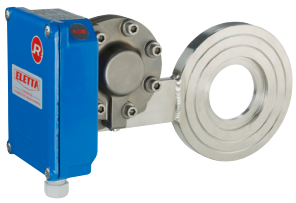
It is possible to order a lower range than indicated. Other ranges can be quoted upon request.

Variation of process connections and materials: Steel, Stainless Steel and Brass

R-GL
The R-series Flow Transmitter with aluminium housing and threaded brass pipe connection. Available in BSP/NPT threads from 15-40 mm (½" - 1 ½").

R-FA
The R-series Flow Transmitter with aluminium housing and flanged pipe connection in painted steel. Available in DIN/ANSI from 15-400 mm (½" - 16").

R-GSS
The R-series Flow Transmitter with aluminium housing and threaded stainless steel pipe connection. Available in BSP/NPT threads from 15-25 mm (½-1").



R-FSS
The R-series Flow Transmitter with aluminium housing and flanged pipe connection in stainless steel. Available in DIN/ANSI from 15-500 mm (½-20").

R-SS-GSS
The R-series Flow Transmitter with stainless Steel housing and stainless Steel threaded pipe section with BSP/NPT threads from 15-25 mm (½-1").

All stainless steel
Both housing and pipe-section in Stainless Steel to withstand any harsh environment. This is available to increase the durability of the Monitors when using Stainless Steel pipe sections.

Flow range	0,4–25 000 l/min (liquid), to choose the right range, see table of ranges page 3
Wetted Material	Copper alloy, powder coated steel. stainless steel, 316L
Rubber Parts	Nitrile (HNBR), EPDM and Fluorinated rubber (FPM)
Min. pressure	Appr. 700 – 1000 mbar (0,7–1 bar)
Max. pressure	PN 16/ANSI 150 lbs
Max. temp. Control Unit	85°C
Max. temp. Pipe Section	-GL and -FA: 120°C (248°F) -GSS, -FSS: 250°C (482°F)
Enclosure	IP65 (NEMA4)
Process Connection	DN 15–40, BSP/NPT thread DN 15–500 DIN/ANSI flange (wafer)
Outputs:	4-20 mA, HART, zero-based.
Accuracy:	< +/-3% F.S
Repeatability	<2% actual
Current consumption:	The Eletta Flow Monitors conforms with the EU directive for low voltage no: 2014/35/EU (EN 60204-1:2016 Part 1.) and Electromagnetic compatibility according to the directive 2014/30 EU (EN 61000-6-2:2019, EN 61000-6-3:2021 and EN 61000-6-3:2007+A1) Complies with applicable parts in PE-Directive 2014/68/ EU

Certificates

UK CA | CE

Intertek

PED 2014/68/EU

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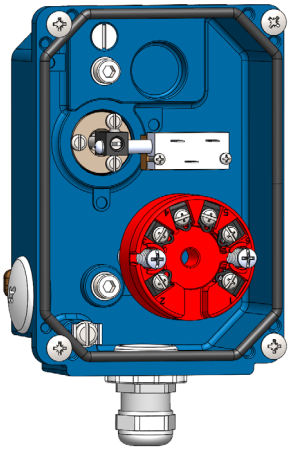
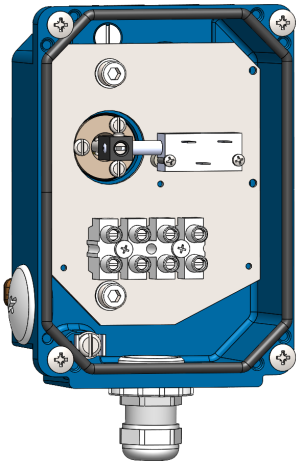
R-series is a blind flow transmitter giving 4-20 mA & HART signals proportional to flow.



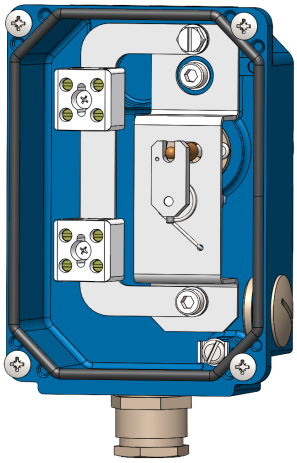
RH

RH is fitted with a linear potentiometer, giving 4 wires resistive signal. Resistive signal is converted to 4-20 mA signal directly proportional to measured flow by 2 wires transmitter. 4-20 mA transmitter is including HART protocol communication.



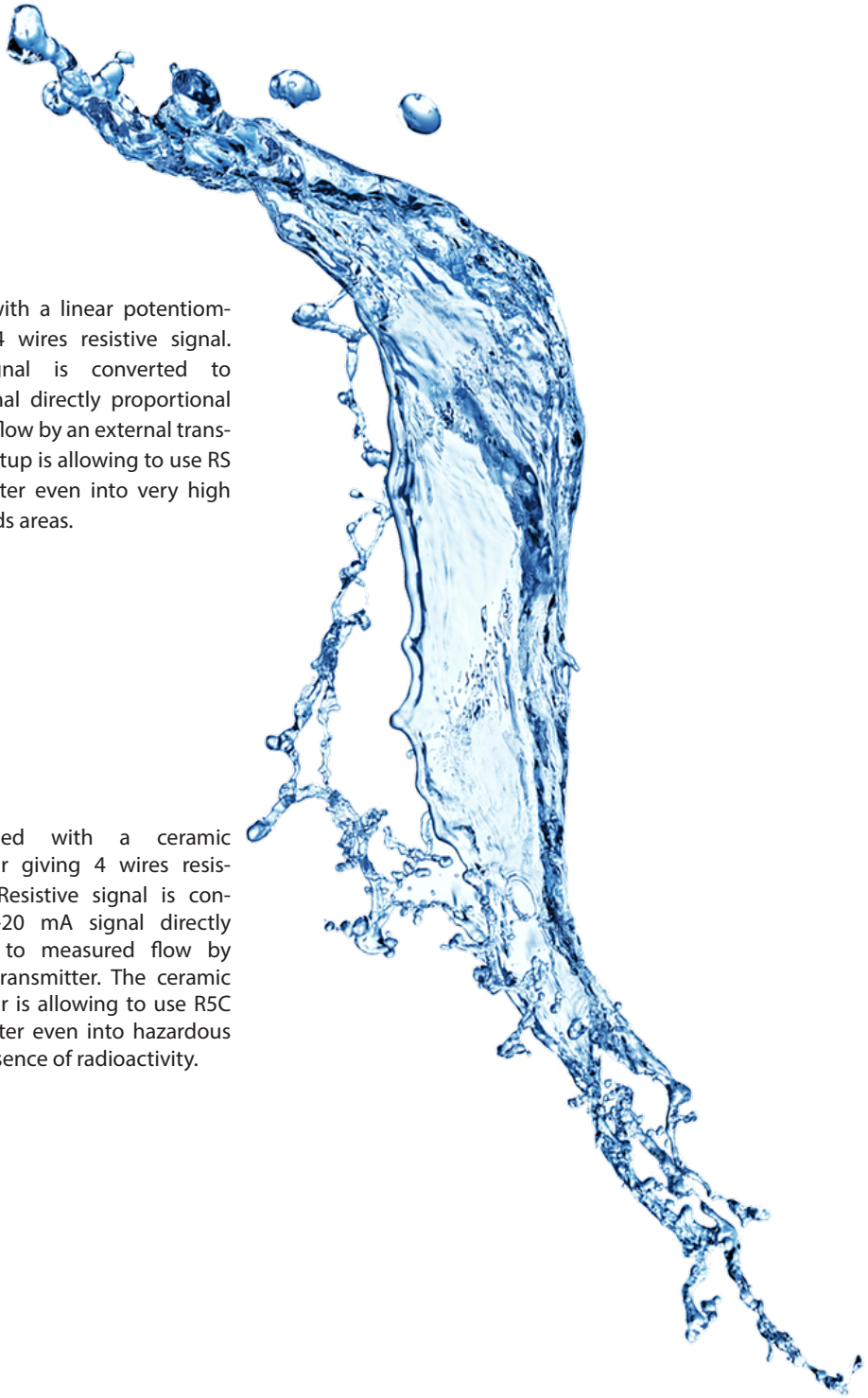
RS

RS is fitted with a linear potentiometer giving 4 wires resistive signal. Resistive signal is converted to 4-20 mA signal directly proportional to measured flow by an external transmitter. This setup is allowing to use RS flow transmitter even into very high magnetic fields areas.



R5C

R5C is fitted with a ceramic potentiometer giving 4 wires resistive signal. Resistive signal is converted to 4-20 mA signal directly proportional to measured flow by an external transmitter. The ceramic potentiometer is allowing to use R5C flow transmitter even into hazardous area with presence of radioactivity.



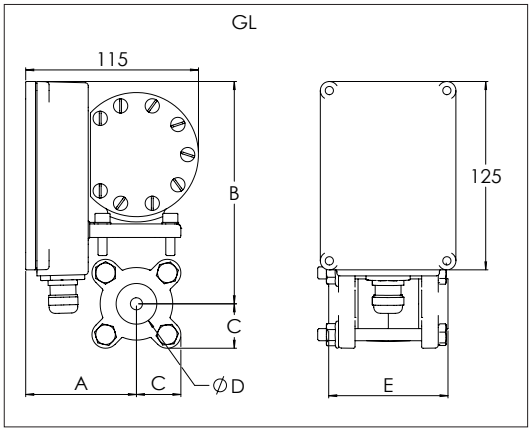
Weight and Dimensions

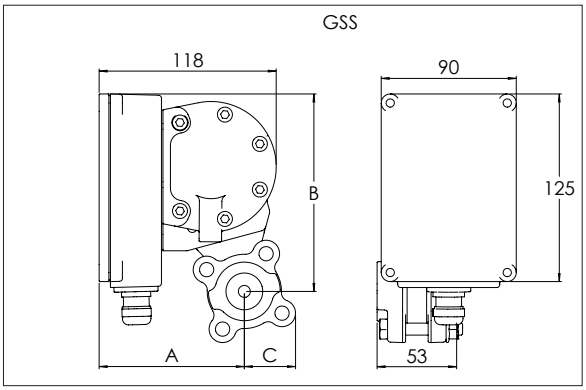
R-GL						
Type	D	A [mm]	B [mm]	C [mm]	E [mm]	Approx. Weight [kg]

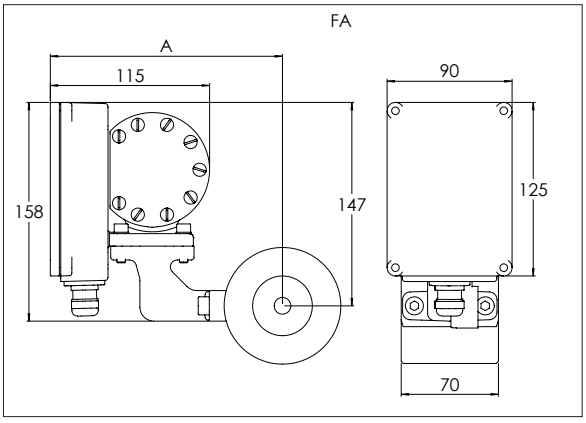
R-GSS					
Type	D	A [mm]	B [mm]	C [mm]	Approx. Weight
R-GSS15	1/2"	97	132	34	3
R-GSS20	3/4"	97	132	34	3
R-GSS25	1"	97	132	34	3

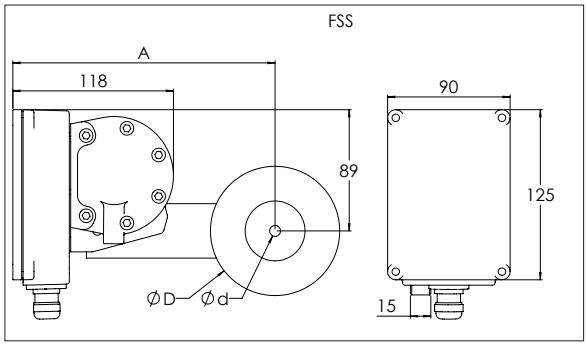
R-FA				
Type	d [mm]	D [mm]	A [mm]	Approx. Weight
R-FA15	16	53	152	4
R-FA20	21,6	63	157	4,5
R-FA25	28,5	73	162	4,5
R-FA32	37,5	84	168	5
R-FA40	43	94	173	6
R-FA50	55	109	181	6
R-FA65	70	129	191	7
R-FA80	82	144	199	8
R-FA100	107	164	209	8
R-FA125	132	194	224	10
R-FA150	158	219	237	11
R-FA200	207	274	265	15
R-FA250	260	330	293	19
R-FA300	310	385	320	21
R-FA350	340	445	350	35
R-FA400	390	498	377	40,5

R-FSS				
Type	d [mm]	D [mm]	A [mm]	Approx. Weight
R-FSS15	17	53	168	3
R-FSS20	22	63	174	3
R-FSS25	29	73	181	3
R-FSS32	39	84	187	3
R-FSS40	43	94	193	3
R-FSS50	55	109	201	3
R-FSS65	70	129	211	3,5
R-FSS80	82	144	219	3,5
R-FSS100	107	164	230	4
R-FSS125	132	194	245	4,5
R-FSS150	160	219	267	5
R-FSS200	207	274	295	6,5
R-FSS250	260	330	323	8
R-FSS300	310	385	350	9,5
R-FSS350	340	445	381	14,5
R-FSS400	390	498	427	16,5









Ordering code

ELETTA® FLOW MONITORS

Serie		
R	RH RS R5C	

Measuring span		
2	1:2	50-100% of max measuring range e.g. 10-20 l/min
5	1:5	20-100% of max measuring range e.g. 10-50 l/min

Indicating unit	
-	Standard, painted aluminium
SS	All Stainless steel

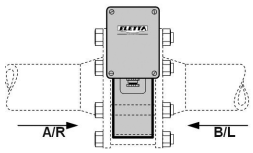
Pipe section	
GL	Thread, brass
FA	Flange painted steel
GSS	Thread stainless steel
FSS	Flange stainless steel

Dimension		
15	1/2"	Thread GL, GSS or Flange FA, FSS
20	3/4"	Thread GL, GSS or Flange FA, FSS
25	1"	Thread GL, GSS or Flange FA, FSS
32	1" 1/4	Thread GL or Flange FA, FSS
40	1" 1/2	Thread GL, GSS or Flange FA, FSS
50	2"	Flange FA, FSS
65	2" 1/2	Flange FA, FSS
80	3"	Flange FA, FSS
100	4"	Flange FA, FSS
125	5"	Flange FA, FSS
150	6"	Flange FA, FSS
200	8"	Flange FA, FSS
250	10"	Flange FA, FSS Larger dimensions on request

Media	
Water	
Oil	
Gas	Please specify: Pressure, working temperature and type of gas
Other	Please specify: Media, pressure, density, viscosity, pressure and working temperature

Installation alternative

A/R
B/L



A/R - Left to right in a horizontal pipe
B/L - Right to left in a horizontal pipe

Measuring range

See separate table

Options			
	Mark on tag plate		
	NPT connection		
	ANSI connection		
	Rubber parts in other material		
	Separate mounting kit		
	Manifold with shut-off valves		
	Chemical nickel plated (for GL only)		

Example of Code

RC, RS, RH 5 GL15 Water A/R 2-10 l/min

All combinations are not possible so please check upon ordering.

Eletta Flow AB Tel: + 46 8 – 603 07 70 info@eletta.com www.eletta.com