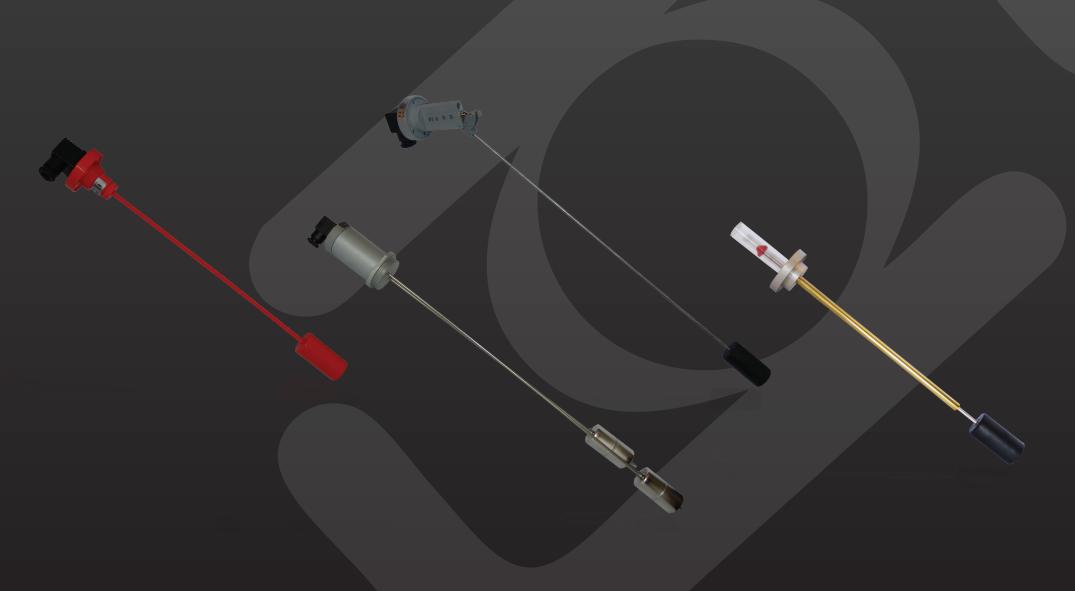
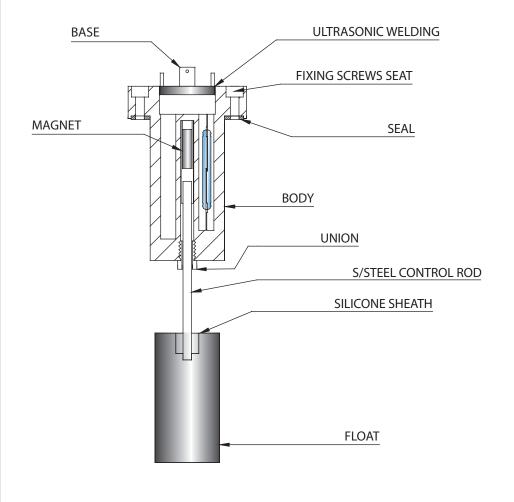


Patented level switches with unique characteristics.



## **RAPID LEVEL**

# PATENTED LEVEL SWITCHES WITH UNIQUE CHARACTERISTICS



- \* The required length can be obtained simply by cutting the steel rod, using an ordinary pipe cutter; or the switching point can be varied by using a float with through hole allowing the required liquid control point to be modified whenever necessary.
- \* It can be used for dirty liquids, water, petroleum, cutting oils, and tolerates the presence of metal and ferrous particles, since the float does not hold a magnet and is integral with the rod.
- \* One float can operate just one Reed (min. or max. level), or two Reeds (min. and empty and extra max. level) thus meeting the most complex needs.
- \* Total safety since the electrical part is completely separate in the tank side and perfectly sealed with respect to the external side by means of ultrasonic welding and resin coating of the pins.
- \* The nylon-glass body is very strong and very resistant with respect to chemicals, and is ideal as an insulating container for the Reed contacts.
- \* The Rapid Levels come standard with rods suitable for control of a max. measurement of 500 or 1000mm. To obtain specific measurements, refer to the table on the next page.
- \* They can be ordered already arranged for the control of predetermined measurements.



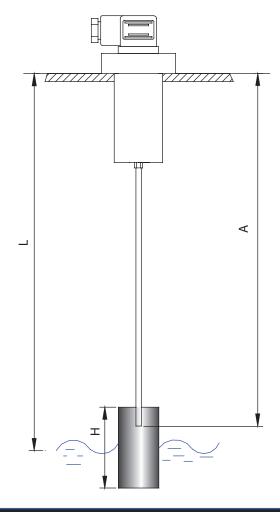
### THROUGH FLOAT

On request the float can be supplied with through hole and therefore be positioned in the required position without having to cut the rod (which can therefore be as long as the height of the tank). If necessary, the liquid control point can be subsequently be modified as required by simply moving the float.

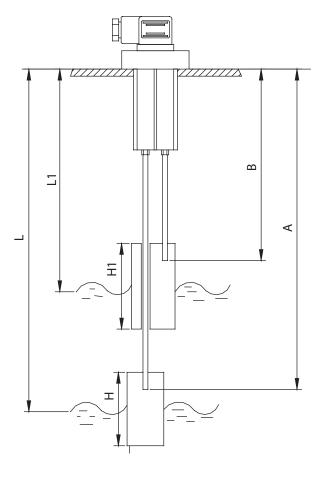
# **RAPID LEVEL**

# Rapid Level connection rod cutting table.

(NB: Carry out the cutting measurement with the rod in traction with respect to the body)



CONTROL VALUE L= (mm)	ROD CUTTING FOR MIN. LEVEL A= (mm)	CONTROL VALUE L1= (mm)	ROD CUTTING FOR MAX. LEVEL B= (mm)
90	H= 35		
100	H= 45	1	
110	H= 55	1	
120	116		
140	137		
160	158		
180	179	90	62 H1= 35
200	200	100	62 H1= 45
220	221	120	131
240	242	140	152
260	263	160	173
280	284	180	194
300	305	200	215
320	326	220	236
340	347	240	257
360	368	260	278
380	389	280	299
400	410	300	320
420	431	320	341
440	452	340	362
460	473	360	383
480	494	380	404
500	515	400	425
520	511	420	421
540	532	440	442
560	553	460	463
580	574	480	484
600	595	500	505
620	616	520 540	526
640 660	637 658	560	547 568
680	679	580	589
700	700	600	610
720	700	620	631
740	742	640	652
760	763	660	673
780	784	680	694
800	805	700	715
820	826	720	736
840	847	740	757
860	868	760	778
880	889	780	799
900	910	800	820
920	931	820	841
940	952	840	862
960	973	860	883
980	994	880	904
1000	1015	900	925



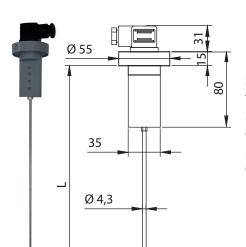
L-L1 = 100 mm A-B = 90 mm

H = 35 (L = 90 mm) H = 45 (L = 100 mm) H = 55 (L = 110 mm) H = 60 (L = 120 - 500 mm) H = 90 (L = 501 - 1000 mm) H1 = 35 (L1 = 90) H1 = 45 (L1 = 100)

H1 = 70 (L1 = 120 - 1000 mm)

# RAPID LEVEL" TYPE LEVEL SWITCH WITH 1 FLOAT

## RL/G1-1"GAS



30

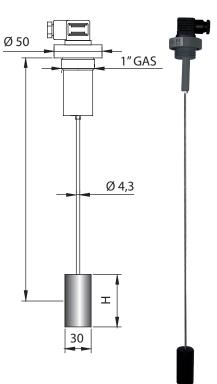
#### **ADVANTAGES OF THE RANGE**

- 1- These electromagnetic level gauges in Kits can be obtained in the required length "L" simply by cutting the control rod with an ordinary pipe cutter and press fitting the float in the cutting place (see table for cutting).
- 2- The control rod can commutate the signal of 1 or 2 Reeds in sequence (with single or exchange contact).
- 3-The float does not hold magnets, therefore the Level can also be used in the presence of dirty liquids or ferrous particles.

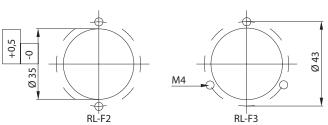
H = 55 (L = 110 mm)

#### **CONNECTION:**





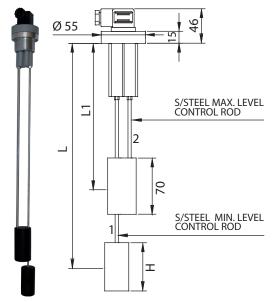
FIXING I	DIAGRAM
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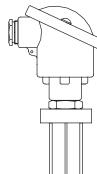
VERSION	CONNECTION			ELECTRICAL O		REED	REED EXCHANG		JRE	<b>=</b>	
RL / G1 - F3 (F2)	FLANGE 3 / 2 HOLES	S1= CLOSED IN ABSENCE OF LIQUID	S1A= CLOSED IN PRESENCE OF LIQUID	S2= EXCHANGE	S3= MINEMPTY	S4= SPECIAL MIN EMPTY	/.A.	/.A. /AC	VDC	PERATU	IRE 10 Bar
RL / G1 - 1"GAS	1" GAS	1	1	3 2	3		N 60V.	V 20V 150 V	V 500	G TEM C ON I 120°C	RESSUF
RL / G1 - 1"1/4 GAS	1" 1/4 GAS	]		• •		T 1 mmg	A. 60V 30VDC	A. 20W 50VDC	A. 30W	AATIN +80°	MAX. PR
RL / G1 - 1"1/4 NPT	1" 1/4 NPT	2	2		2		m 74	15	/9'0	OPER -20	Ď

## RL/G2

#### RAPID LEVEL" TYPE LEVEL SWITCH WITH 2 FLOATS

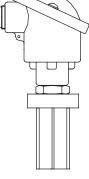


- \* The RL/G2 range has a head which holds two control rods and two floats.
- \* Each control rod can commutate the signal of 1 or 2 Reeds (with single or exchange contact). Each head can therefore contain from 2 to 4 Reeds.
- \* The most suitable system can chosen for each rod.
- \* In case of excessively dense liquids the two floats can be supplied entirely separate from each other to prevent rod 1 from undergoing friction with the float of rod 2.
- \* The minimum distance between the two points to be controlled is 90mm.

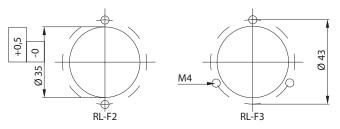


**IP65 CONNECTION HEAD** WITH 6 POLARITIES

Indispensable for use with systems providing for 4 to 6 polarities.



#### **FIXING DIAGRAM**



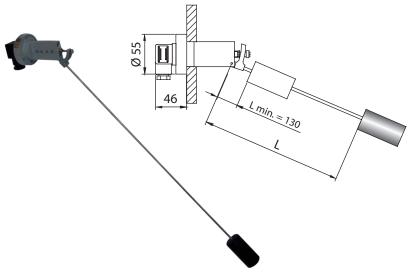
## **CONNECTION:**



VERSION	CONNECTION		El	LECTRICAL CONT		REED		ANGE ED	30°C			
			MIM	N. LEVEL CONTRO			, RE	ED	Ψ		1	
RL / G2 - F3 (F2)	FLANGE 3/2 HOLES	S1= CLOSED IN ABSENCE OF LIQUID	ABSENCE OF IN PRESENCE S2= EXCHANGE S3= MIN. EMPTY				VDC	150VDC		TURE -20 120°C	10 Bar	
			MA	X. LEVEL CONTRO	OL ROD		30,	20	VDC		<b>R</b>	ı
RL / G2 - 1"1/4 GAS	1" 1/4 GAS	S1= CLOSED IN PRESENCE OF	S1A= CLOSED	S2= FXCHANGE	S3= MIN. EMPTY	S4= SPECIAL. MIN.	.A. 2 AC	-	500 \	TEMPERA	PRESSURE	ı
		LIQUID	LIQUID	OZ EXGNANGE	oo miit. Ziiii 11	EMPTY	≥ >	20V.A. 50 VAC		EMPER	X	ı
RL / G2 - 1"1/4 NPT	1" 1/4 NPT	1	1	3 2	3 1	3 2 mmus	3 A. 60W 60 230	1A. 20W 20	0,5A. 30W	OPERATING TI	MAX. P	

## RL/G1 - L

# "RAPID LEVEL" TYPE LEVEL SWITCH FOR SIDE USE



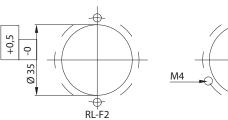
- \* This level switch for "side" use is very versatile: like the "RL" range, it can also be used to control the maximum or minimum level and for controlling the minimum plus empty or maximum or overflow.
- \* Unlike the "RL" range, the distance between the 1st and 2nd signal is not fixed, but has an angular value, which gradually increases with the length of the rod.
- \* This gives the designer many choices; in fact, by varying the length "L", the switching points of the 1st and 2st Reed vary (read on axis 1 and 2).
- \* The Level (see diagram S3) can likewise be used to start a pump (1st Reed) on axis 1; the contact will remain closed until axis 2.

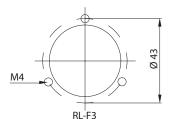
On axis 3 there will be the alarm signal (with diagram S4 there will also be the O.K. signal).

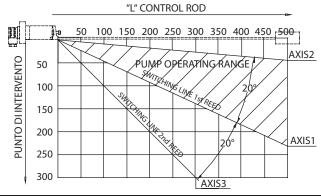


#### **CONNECTION:**

Connector CE DIN 43650 IP65 PG.9





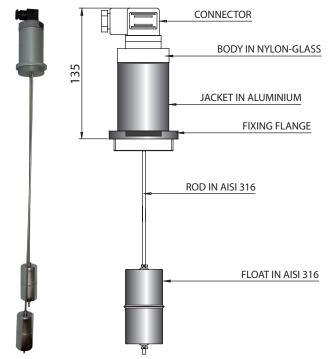


VERSION	CONNECTION			ELECTRICAL CO		REED	EXCH RE	ANGE ED	'URE 120°C	ar	
RL / L - G1 - F3 (F2)	FLANGE 3 / 2 HOLES	S1= CLOSED IN ABSENCE OF LIQUID  1	S1A= CLOSED IN PRESENCE OF LIQUID	S2= EXCHANGE	S3= MIN. EMPTY	S4= SPECIAL MIN. EMPTY	3 A. 60W 60V.A. 230VDC 230 VAC	1A. 20W 20V.A. 150VDC 150 VAC	0,5A. 30W 500 VDC	OPERATING TEMPERATI	MAX PRESSURE 10 Ba

**FIXING DIAGRAM** 

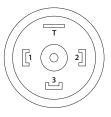
## **RL/A - (G1 / G2)**

# LEVEL SWITCH FOR AGGRESSIVE LIQUIDS WITH 1 OR 2 CONTROL POINTS



- \* The RL/A is suitable for all liquids compatible with AISI 316 stainless steel.
- \* The Rapid Level for aggressive liquids consists of a normal Rapid Level in nylon-glass inserted in an anodised aluminium jacket and fixed at the bottom to a flange that isolates the body from contact with the liquid contained in the tank; therefore only the control rods, the respective stops and the floats (all in AISI 316 stainless steel) remain in contact with the aggressiveness of the liquids on the internal part of the tank.
- \* The flange can be supplied with fixing holes or with 1"1/2 Gas thread connections (only for Levels with one float) and 2" GAS (for all versions).
- \* The float has a through hole enabling its positioning and possible repositioning.
- \* Like the other Rapid Levels, also this model has magnets for activating the Reed contacts located inside the body, and therefore there is no problem with dirty liquids or liquids containing metal or ferrous particles.
- \* For RL/A G2 the minimum distance between the two control points must be at least 110mm.

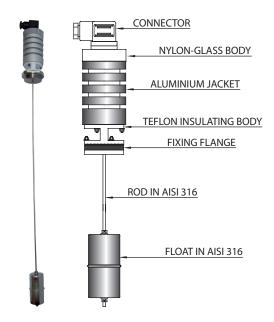
#### **CONNECTION:**



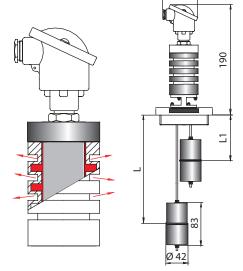
VERSION	CONNECTION		Е	LECTRICAL CON	TACTS		REED	EXCHANGE REED		URE 120°C	
RL / A - G1	1" 1/2 GAS	S1= CLOSED IN ABSENCE OF LIQUID			S3= MIN. EMPTY	S4= SPECIAL MIN. EMPTY	230VDC	150VDC 0 VDC		EMPERATU REQUEST 1	RE 10 Ba
RL / A - G2	2" GAS	1	2	3 2	3 1	3 2 T 1 EE S	3 A. 60W 60V.A. 230 VAC	1A. 20W 20V.A. 150 VAC	0,5A. 30W 500	OPERATING TEM -30 +100°C ON RE	MAX. PRESSURE

# **RL/T - (G1 / G2)**

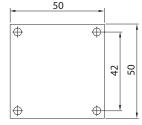
# LEVEL SWITCH FOR HIGH TEMPERATURES WITH 1 OR 2 CONTROL POINTS



- \*The Rapid Level switch for temperatures consists of a normal RL with nylon-glass body, inserted in a completely finned (for heat dispersion) anodised aluminium jacket and joined to the fixing flange through an insulating body (teflon).
- \* This combined method of separating and protecting from the heat and dissipating the residual heat by means of a big increase in the radiant surface, allows our Rapid Level to also work continuously up to 200°C without problems for the electrical part contained in the body.
- \* The flange can be supplied with fixing holes or with 1"1/2 Gas thread connections (only for level switches with one float) and 2" GAS for all versions.



DRILLING DIAGRAM
FOR THE ALUMINIUM FLANGE



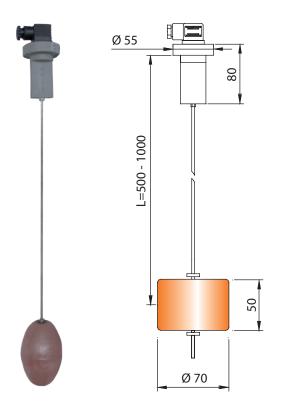
### **CONNECTION:**



VERSION	CONNE	ECTION		E	LECTRICAL CON	TACTS		REED	EXCH RE			
	ALUMINIUM	AISI 316 S/STEEL	S1= CLOSED IN ABSENCE OF LIQUID		S2= EXCHANGE	S3= MIN. EMPTY	S4= SPECIAL MIN. EMPTY	230 VAC	150 VAC		TURE	SURE
RL / T - G1	1" 1/2 GAS	1" 1/2 GAS	1	1	3 2	3	3 2	230VDC 2	150VDC 1	V 500 VDC	S TEMPERAT ) +200°C	ERIC PRESSURE
	ALUMINIUM FLANGE 4 HOLES				1	3 1	T [1 wwg]	60V.A.	20V.A.	0,5A. 30W	OPERATING -30	ATMOSPHERIC
RL / T - G2	2" GAS	2" GAS	2	2		2		3 A. 60W	1A. 20W	0,	OO	AT

# **RL/G1 - MAXI**

#### "MAXI" LEVEL SWITCH FOR CONTROL UNITS



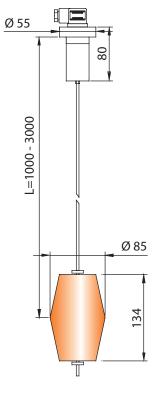
POSSIBILITY OF CONTROL UP TO 3 m

SOLID ROD AND FLOAT IN PVC FOAM

VERY QUICK AND EASY ADJUSTMENT OF SWITCHING POINT

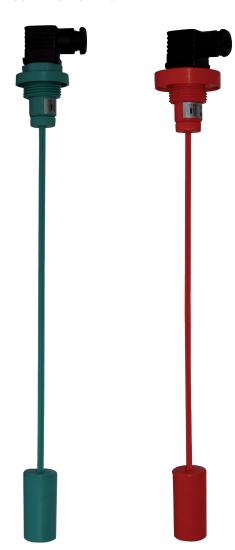
## **CONNECTION:**





VERSION	CONNECTION		E	LECTRICAL CON		REED		ANGE ED	URE 120°C	_	
RL / G1 - MAXI - F3 (F2)	FLANGE 3 /2 HOLES	S1= CLOSED IN ABSENCE OF LIQUID			S3= MIN. EMPTY	S4= SPECIAL MIN. EMPTY	7 Y.	A. AC	ъс	ERAT JEST 1	RE 10 Ba
RL / G1 - MAXI -1"GAS	1" GAS	1	1	3 2	1	3 2	N 60V., 230 V/	20V.	V 500 V	S TEMP N REQU	RESSUR
RL / G1 - MAXI -1"1/4 GAS	1" 1/4 GAS	]			3 1	T 1 wws	3 A. 60W 230VDC 2	1A. 20W	5A. 30V	RATING 80°C ON	X.
RL / G1 - MAXI - 1"1/4 NPT	1" 1/4 NPT	2	2	1	2	<u></u>			0,	OPE -20 +	MA

# ENTIRELY IN PLASTIC MATERIAL FOR SMALL CONTROL UNITS



#### \* EASY TO USE

there are two scales (oil and water) on the rod, that indicate the exact cutting place for obtaining the required switching point.

#### \* SAFE

- a) the level switch has structural separation of the electrical part from the tank;
- b) insensitive to dirty liquids and metal particles.

#### \* VERSATILE

- a) it can have two types of fixing (flange + thread) at the same time;
- b) the electrical contacts are reversible (N.O. / N.C. in pres.) with an operation of just a few seconds.

#### \* COMPATIBLE

all parts of the level switch are made from the same material (nylon-glass /polypropylene-glass), to make chemical compatibility checking very easy.

#### \* CONVENIENT

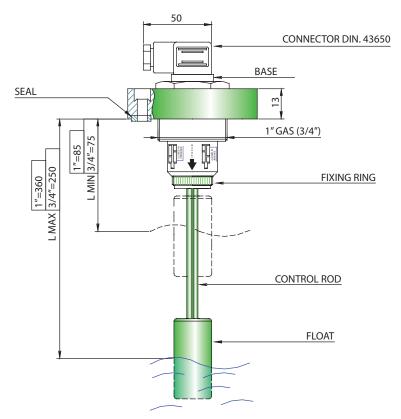
this level switch is not only the newest and most reliable available on the market from a technical standpoint, but is also the best in terms of quality value for money.

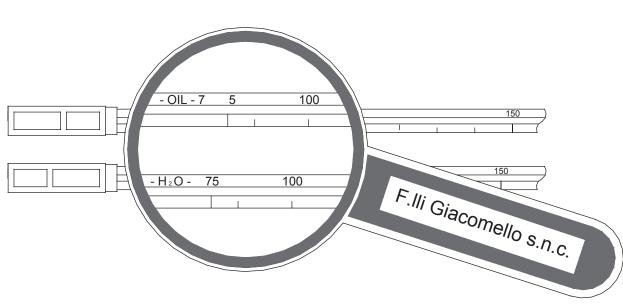
The brand-new MG range is the result over 20 years' experience in the field of level switches.

This product is a happy synthesis of problems solved and universal use... nothing has been left to chance.

For dealers, it is the right product to meet the needs of every customer (user).

Extreme versatility and reliability are the main features of this "big - little" level switch.





### Cutting the control rod.

After choosing the scale corresponding to the liquid used (water - oil), cut the control rod with nippers or scissors at the place corresponding to the control level (see level "L"); then join the float to the rod, fitting it in the special seat.

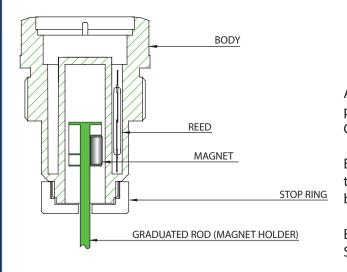
The level switch has the electrical part completely separate from the liquid and perfectly protected on the connector side.

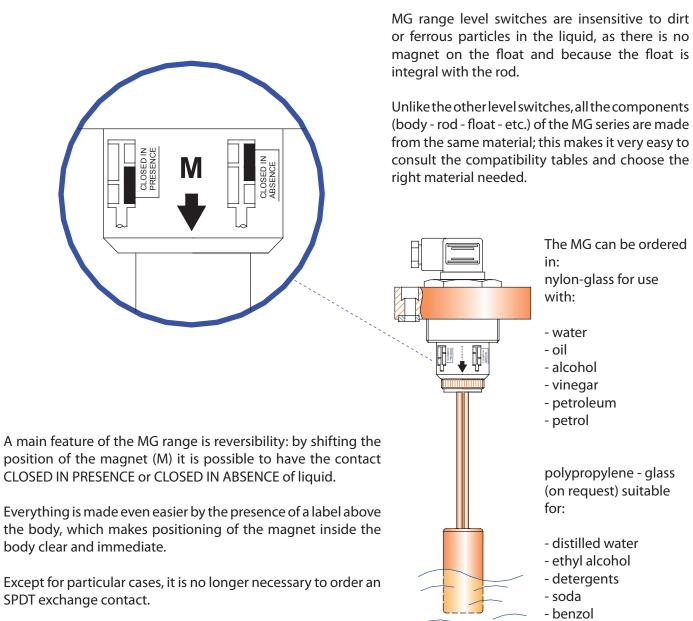
The result is a safer product.

Production currently provides for the base body with 1" Gas thread (3/4" on request).

A flange with 3 holes (Ø55) or 6 holes (Ø70) can be welded to it (see table).

Moreover, by ordering the flanged (3 or 6 holes) level switch the user will also have a 1" Gas thread connection (3/4" Gas on request) available, for further fixing possibilities.

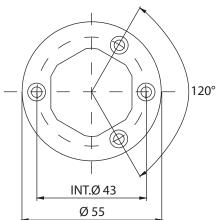




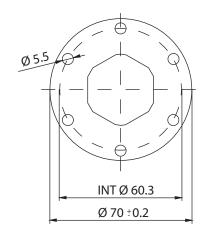
## **SUMMARY CHART**

MODEL	CHARACTERISTICS	MATERIAL	Ø FLOAT	"L" ROD	CONTACT	OPERATING TEMPERATURE	PRESSURE	ELECTRICAL CONTACTS				R	EED
MG - 1" - S1 (S1A-S2)	1" GAS	NO	30	360	ISE IN WITH E - S1)	"-20 + 80°C"		S1= N.C. IN ABSENCE.	S2 (EXCHANGE)	S1 (S1A)	S2 (EXCHANGE)		
MG - 1" - F3 - S1 (S1A-S2)	1" GAS + 3 HOLES	NYLO	30	360	HERWISE SHED WIT	ON REQUEST 100°C		S1A= N.C. IN PRESENCE					
MG - 1" - F6 - S1 (S1A-S2)	1" GAS + 6 HOLES	_	30	360	IOT OTHERWIS FURNISHED W	100 C				AC	150 VAC		
MG - P - 1" - S1 (S1A-S2)	1" GAS		30	360	THE SEE		20°C			<u> </u>	15(		
MG - P - 1" - F3 - S1 (S1A-S2)	1" GAS + 3 HOLES	РР	30	360	0 2 3	"-20 + 80°C"	T 20	1	3 2	30VD(	2		
MG - P - 1" - F6 - S1 (S1A-S2)	1" GAS + 6 HOLES		30	360	NOT S. FU C. IN		R AT			230	150VDC		
MG - 3/4" - S1 (S1A-S2)	3/4" GAS	z	23	250	ᅵᅟᄔᄪᄼ	"-20 + 80°C"	BAR		<b>→</b> , <b>→</b>	⋖			
MG - 3/4" - F3 - S1 (S1A-S2)	3/4" GAS + 3 HOLES	NALON	23	250	C (F COME VG N.	ON REQUEST	က	•	<b>4</b>	400	20V.A.		
MG - 3/4" - F6 - S1 (S1A-S2)	3/4" GAS + 6 HOLES	Ŋ	23	250	RSING AND CC ACTING	100°C		2	1	40W.			
MG - P - 3/4" - S1 (S1A-S2)	3/4" GAS		23	250	REVERSING (I DEMAND COM CONTACTING I			2		. 40	20W.		
MG - P - 3/4" - F3-S1 (S1A-S2)	3/4" GAS + 3 HOLES	РР	23	250	EM/EN/	"-20 + 80°C"				2A	₹.		
MG - P - 3/4" - F6-S1 (S1A-S2)	3/4" GAS + 6 HOLES	_	23	250	<b>R</b>						4		

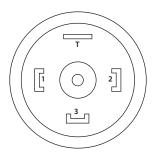
## **FLANGE 3 HOLES**



## **FLANGE 6 HOLES**

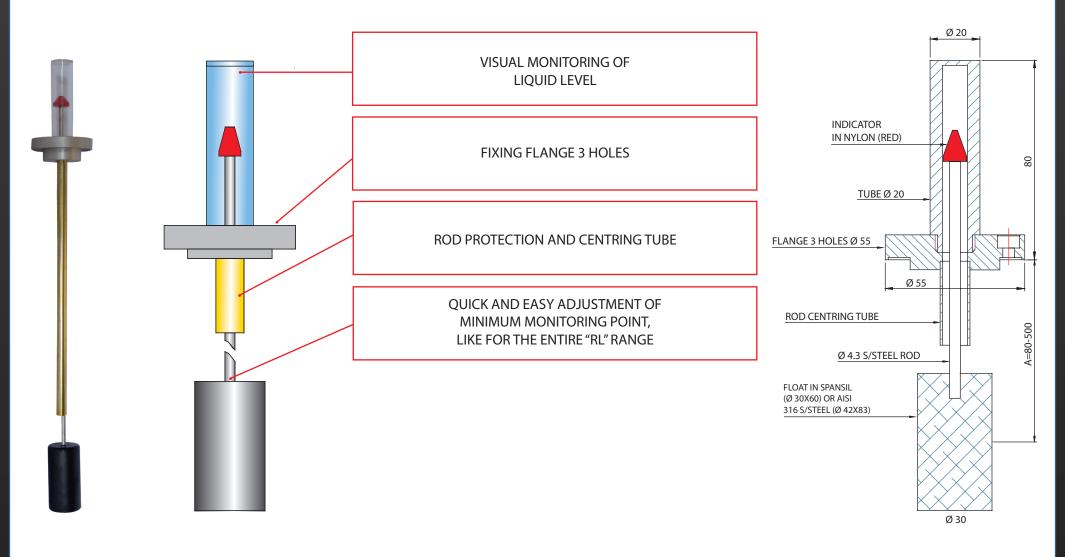


### **CONNECTION:**



# **RL/G1-V**

# VISUAL IMMERSION LEVEL SWITCH FLANGED CONNECTION



## RL/G1 - V - 1"1/4

# VISUAL IMMERSION LEVEL SWITCH 1"1/4 GAS THREAD CONNECTION AND NPT

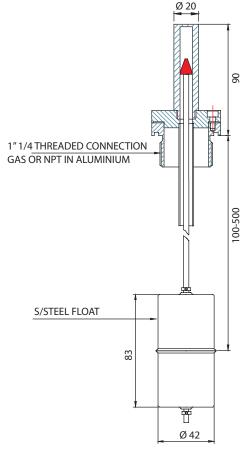


The easiest way to visually monitor the liquid level, without having to drill the side of the tank.

Adjustment is quick and practical:

- remove the float that creates a pressure seal with a silicone sheath (version with NBR float)
- cut the rod and centring tube with a pipe cutter
- refit the float
- or it can be ordered already to size.

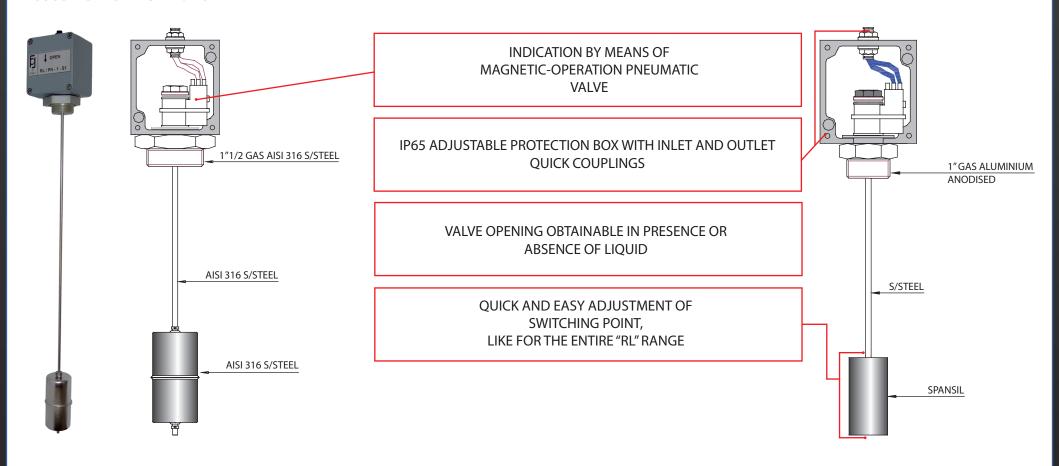
The float pushes the rod, with an indicator at the top which clearly and accurately shows the level of the liquid.



MODEL	OPERATING TEMPERATURE	OPERATING PRESSURE	MATERIAL ROD Ø4,3	TUBE Ø20	MATERIAL SEAL	MATERIAL FLANGE Ø55	MATERIAL CENTERING TUBE	MATERIAL FLOAT	DRILLING DIAGRAM	SWITCHING POINT
RL/G1-V	-20 +70 °C	5 BAR	AISI 304	METHACRYLATE	NBR (SILICONE ON	ANODISED	BRASS	NBR FOAM	M4 # # # # # # # # # # # # # # # # # # #	80 - 500 mm
RL/G1-V-INOX		3 BAR	AISI 316	WETHACKTLATE	REQUEST)	ALUMINIUM	AISI 316	AISI 316	RL-F3	80 - 900 IIIII
THE RING NUT 1"1/4 GAS OR NPT CON BE COMBINED WITH EITHER THE BRASS OR S/STEEL VERSION										100 - 500 mm

# **RL/PN**

# PNEUMATIC CONTROL LEVEL SWITCH WITH ADJUSTABLE SWITCHING POINT



MODEL	PNEUMATIC VALVE OPENING		CONNECTION	HEX. WRENCH	DIMENS. OF FLOAT ACCORDING TO SWITCHING POINT	FLOAT	ROD
RL / G1 - PN -1"1/2	S1	IN ABSENCE OF LIQUID	AISI 316 1"1/2 GAS	60	Ø 42 x 83 AISI 316 S/STEEL	AISI 316 S/STEEL	AISI 316 S/STEEL
RL / G1 - PN -1"	S1A	IN PRESENCE OF LIQUID	ALUMINIUM 1" GAS	45	Ø 30 x 90 SPANSIL	SPANSIL	AISI 304 S/STEEL