

Pressure equipment directive 97/23/CE establishes the procedure of design, manufacturing and testing of pressure containing equipment.

Fluids that are considered are divided in two groups.

GROUP 1 Dangerous fluids; explosive, extremely flammable, highly flammable, flammable, very toxic, toxic, oxidizing.

GROUP 2 Non dangerous fluids; all fluids not included in 1.

In the Directive there are 9 tables where different scope of action from the manufactureer are stipulated. The tables of interest for Electromagnetic Flow Meters are 6, 7, 8 and 9.

TABLE 6 Piping systems for dangerous gases and liquids as defined in GROUP 1

TABLE 7 Piping systems for non dangerous gases and liquids as defined in GROUP 2

TABLE 8 Piping systems for dangerous liquids as defined in GROUP 1

TABLE 9 Piping systems for non dangerous liquids as defined in GROUP 2

Another consideration is given on the vapour tension of the liquid.

That is if the process is generating a vapour tension of the liquid > 0.5 bar then the applicable tables are 6 & 7.

If the process is generating a vapour tension ≤ 0.5 bar then the applicable tables are 8 & 9.

For water based application this means that in processes where the temperature is ≤ 109 °C table 9 shall be used.

When process water temperature is > 109 °C then table 7 shall be used.

Each table stipulates which is the type of CATEGORY in which the products fall according to size, pressure and temperature.

CATEGORIES of interest for the Electromagnetic Flow Meters are:

CATEGORY 1	Module A :Internal production control
CATEGORY 2	Module A1 :Internal production control and internal manufacturing checks with monitoring of the final assessment (notified body)
	Module D1 :Production quality assurance (notified body)
	Module E1 :Production quality assurance (notified body)
CATEGORY 3	Module B1+D : EC design-examination + production quality assurance (notified body)
	Module B1+F : EC design-examination + product verification (notified body)
	Module B+E : EC type-examination + product quality assurance (notified body)
	Module B+C1 : EC type-examination + conformity to type (notified body)
	Module H: full quality assurance (notified body)

According to point 3.2 of Directive are excluded from its scope: networks for the supply, distribution and discharge of water and associated equipment.

EUROMAG INTERNATIONAL is providing Conformity Certification on products falling in the scope of the Directive according to the following.

Conformity declaration is provided under CATEGORY 1.

Special process conditions may be accomodated under CATEGORY 2&3 only upon request.

TABLE 7 - NON DANGEROUS GAS, LIQUID GASES, VAPOURS, LIQUIDS

PED is not applicable on $DN < 32$ if $PS \times DN \leq 1000$; no CE marking required

- **Category 1:** if $DN > 32$ and $PS \times DN \leq 3500$
- **Category 2:** if $DN > 100$ and $PS \times DN \leq 5000$
- **Category 3:** if $DN > 250$ and $PS \times DN > 5000$

FLUID GROUP 2

PS [bar]	Nominal Diameter (DN) [mm]																														
	≤ 25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200	1400	1600	1800	2000					
1																															
2																															
3			NOT APPLICABLE																												
6																															
10																															
16					CATEGORY 1																										
20																															
25																															
30																													CATEGORY 2		
40																															

TABLE 9 - NON DANGEROUS LIQUIDS

PED is not applicable on $DN \leq 200$ and if $PS \times DN \leq 5000$; no CE marking required
 - **Category 1**: up to 500 bar if $PS \times DN > 5000$

FLUID GROUP 2

PS	Nominal Diameter (DN) [mm]																												
[bar]	≤ 25	32	40	50	65	80	100	125	150	200	250	300	350	400	450	500	600	700	800	900	1000	1200	1400	1600	1800	2000			
1																													
2																													
3			NOT APPLICABLE																										
6			NOT APPLICABLE																										
10																													
16																													
20																													
25																													
30																													
40																													

CATEGORY 1