



TYPE APPROVAL CERTIFICATE
No. **MAC267823CS**

This is to certify that the product identified below is in compliance with the regulations herewith specified.

<i>Description</i>	Plastic pipes, fittings and valves
<i>Type</i>	PE/PP System
<i>Applicant</i>	FIP SPA - FORMATURA INIEZIONE POLIMERI PIAN DI PARATA 16015 CASELLA (GE) ITALY
<i>Manufacturer</i>	FIP SPA - FORMATURA INIEZIONE POLIMERI
<i>Place of manufacture</i>	PIAN DI PARATA 16015 CASELLA (GE) ITALY
<i>Reference standards</i>	Part C, Chapter 1 Appendix 3 of RINA Rules

Issued in **Genoa** on **August 7, 2023**. *This Certificate is valid until* **April 11, 2026**

RINA Services S.p.A.
Rosario Pitruzzo

This certificate consists of this page and 1 enclosure

TYPE APPROVAL CERTIFICATE

No. MAC267823CS

Enclosure - Page 1 of 4

PE/PP System

Reference documents

Technical data sheet Nr. DS1030 "FR wafer swing check valve",
Technical data sheet Nr. DS1136 "VRUBEM"
Technical catalogue "VR PP-H"
Technical data sheet Nr. DS1137 "RVUBEM"
Technical catalogue "RV PP-H"
Technical catalogues "VKD PP-H" and "VKR PP-H"
Technical catalogue "TKD PP-H"
Technical catalogue "FK PP-H"
Technical catalogues "VM PP-H" and "DK PP-H"
Technical catalogue 0320-it-reno-100reno-blu
Technical catalogue "LERACCPE 30/05/18" FIP
Technical catalogue DPU1 0001 DE - 2020.02 Banninger
Technical catalogue Frialen "Electrofusion Product Range 2021"
Technical catalogue Simona 20373_Bruttopreisliste_PE_2020 "AG 02/2020 - PE 100"
Technical catalogue "Data Sheets MASA-FLEXIPOL-PE80-PE100" pipe sizes in accordance to Tab. 2 EN 12201-2.
Technical catalogue ALIAXIS UK "Infrastructure networks range guide V32022"
Technical catalogue ALIAXIS UK "Potable waters_GPS PE Pipe_Product handbook"

Test Report No.13GE217401 dated 02-05/12/2013 "Burst Test"
Test Report No. 2013CS013028/1 dated 12/11/2013 "Low Flame Spread"
Test Report No 212327/20 SKZ 20/07/2020 "Low Flame Spread" SIMONA
Test Report No.2020CS013209 dated 27/01/2021 "Low Flame Spread" Masa
Test Report No.2020GE012312 dated 11/12/2020 "Burst Test"

Technical characteristics

Type: VKD PP-H and VKR PP-H (FIP)		
dual block 2-way ball valve - flanged or PE end		
Nominal internal diameter	Max Working Pressure (20°C)	Working Temperature
DN	bar	°C
15	10	0÷60
20	10	0÷60
25	10	0÷60
32	10	0÷60
40	10	0÷60
50	10	0÷60
65	10	0÷60
80	10	0÷60
100	10	0÷60

TYPE APPROVAL CERTIFICATENo. **MAC267823CS**

Enclosure - Page 2 of 4

PE/PP System

Type: TKD PP (FIP)		
dual block 3-way ball valve - - flanged or PE end		
Nominal internal diameter	Max Working Pressure (20°C)	Working Temperature
DN	bar	°C
15	9	0÷60
20	9	0÷60
25	9	0÷60
32	9	0÷60
40	9	0÷60
50	9	0÷60

Type: FK PP (FIP)		
butterfly valve		
Nominal internal diameter	Max Working Pressure (20°C)	Working Temperature
DN	bar	°C
40	10	0÷60
50	10	0÷60
65	10	0÷60
80	10	0÷60
100	10	0÷60
125	10	0÷60
150	10	0÷60
200	10	0÷60
250	10	0÷60
300	8	0÷60

Type: VR PP (FIP)		
angle seat check valve - flanged or PE end		
Nominal internal diameter	Max Working Pressure (20°C)	Working Temperature
DN	bar	°C
15	10	0÷60
20	10	0÷60
25	10	0÷60
32	10	0÷60
40	10	0÷60
50	10	0÷60
65	6	0÷60
80	4	0÷60
100	4	0÷60

TYPE APPROVAL CERTIFICATENo. **MAC267823CS****Enclosure - Page 3 of 4****PE/PP System**

Type: VM PP-H and DK PP-H (FIP)		
diaphragm valve - flanged or PE end		
Nominal internal diameter	Max Working Pressure (20°C)	Working Temperature
DN	bar	°C
15	10	0÷60
20	10	0÷60
25	10	0÷60
32	10	0÷60
40	10	0÷60
50	10	0÷60
65	8	0÷60
80	8	0÷60
100	8	0÷60

Type: TKD PP (FIP)		
dual block 3-way ball valve - - flanged or PE end		
Nominal internal diameter	Max Working Pressure (20°C)	Working Temperature
DN	bar	°C
15	9	0÷60
20	9	0÷60
25	9	0÷60
32	9	0÷60
40	9	0÷60
50	9	0÷60

Type: RV PP (FIP)		
angle seat sediment strainer - flanged or PE end		
Nominal internal diameter	Max Working Pressure (20°C)	Working Temperature
DN	bar	°C
15	10	0÷60
20	10	0÷60
25	10	0÷60
32	10	0÷60
40	10	0÷60
50	10	0÷60
65	6	0÷60
80	4	0÷60
100	4	0÷60

Type: FR PP (FIP)		
Clapet valve		
Nominal internal diameter	Max Working Pressure (20°C)	Working Temperature
DN	bar	°C

TYPE APPROVAL CERTIFICATE

No. MAC267823CS

Enclosure - Page 4 of 4

PE/PP System

Type: PE Fittings (FIP, Baenninger, Friatec, SIMONA)		
fittings (flanged fittings shall be used to PN10 only)		
Nominal Diameter	Max. Working Pressure (20°C)	Max. Working Pressure (60°C)
Dn	bar	bar
20 to 315	12,5	3

Type: PE pipes (Idrotherm 2000, Masa, SIMONA, ALIAXIS UK)		
pipes (SDR≤11)		
Nominal Diameter	Max. Working Pressure (20°C)	Max. Working Pressure (60°C)
Dn	bar	bar
20 to 315	12,5	3

For Temperature higher than 20°C the maximum allowable working pressure is to be reduced according to the Manufacturer's specification.

O-ring type EPDM or FPM

Fields of application

Sanitary systems, heating and cooling systems for non essential services for which flame spread characteristic is required as indicated at [2.3.2] of Part C, Chapter 1, Appendix 3 of RINA Rules.

Acceptance conditions

Pipes are acceptable on open decks, within tanks, cofferdam, pipe tunnels, ducts and further locations where fire endurance tests are not required according to Table 1 of Pt. C, Ch 1, App. 3 of RINA Rules.

The marking of pipes is to be made in accordance with [2.1.2] of Pt C, Ch 1, App 3 of RINA Rules.

The arrangement on board is to be made in accordance with the instructions of the Manufacturer and with [3] of Pt C, Ch 1, App 3 of RINA Rules.

Workshop tests are to be made in accordance with [4.2] of Pt C, Ch 1, App 3 of RINA Rules.

Testing after installation on board are to be made in accordance with [4.3] of Pt C, Ch 1, App 3 of RINA Rules.

Remarks

Manufacturer of different components are specified inside parenthesis in the tables.

The installation on board ships built according to the "Rules for the construction and classification of high speed crafts" of RINA is subject to the satisfactory outcome of the tests foreseen by IMO Resolution A.753(18).

Validity of this certificate is subject to satisfactory outcome of periodical audit as per RINA "Rules for Testing and Certification of Marine Materials and Equipment".

This Certificate annuls and replace the previous No. MAC007721CS.

Genoa 07/08/2023