

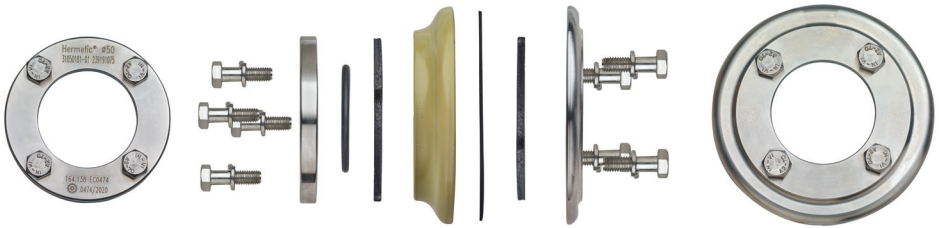


Hermetic

Deck/Bulkhead pipe penetrations







The patented HERMETIC system

The patented **HERMETIC** system allows the penetration of decks/bulkheads to be made through watertight and fire-resisting compartments on board ships and off-shore units of any type or dimension in a safe, fast and economical way.

The system of penetration has successfully passed the standard fire test for class A-0 and A-60 stipulated by the IMO 754 (18) resolution and a hydrostatic pressure test under a water column head above 100 metres.

Advantages



RELIABLE

Quality and **reliability** of all system components.



QUICK

Fast and safe installation using the press-fit technique.



EASY
INSTALLATION



R & D

Design, development and **in-house production** of all products.



Complete range **100% made in Italy**.

Description

The **HERMETIC** system of penetration consists of three metallic discs with a hole in the centre so that they can be mounted onto the pipe which penetrates the structure.

Disc is equipped with an O-ring which forms a seal when coupled onto the pipe, with a flat gasket which ensures that the structure is watertight and a gasket of heat-expanding material which expands when affected by fire, sealing any gaps and making the penetration fire-resistant.

During installation, the discs are connected by screws (which pass through the same hole cut for the pipe) thus making the assembly bulkhead, discs, pipes, strong and absolutely watertight.



Applications

The **HERMETIC** system of penetration can be used on pipes passing through watertight decks and bulk-heads (below the freeboard deck) as well as A-0 and A-60 fire-resistant divisions (A-30 in aluminium).

The range of outside diameters of pipes for which the system penetration are available extends from Ø 6 mm up to Ø 273 mm.

The system has been designed and tested to withstand a pressure of a 100 meter water column. Therefore they can be used on ships and off-shore units of any dimension.



MARINE

Technical features

The system **HERMETIC** can be installed on board without any welding.

The same system of penetration can be used on structures of steel, light alloy or any other material as well as with any type of pipe (carbon steel, stainless steel, copper alloy, etc.) providing it has the same outside diameter.

The system can be mounted directly on any section of a pipeline. It is therefore not necessary to pre-fabricate conventional types of penetration separately - pipe spools – which need to be welded to the structure and coupled on to both ends of the pipe-line.

Materials

In the image A are represented the different components of the penetration and in the table A are stated the material characteristics of the components.

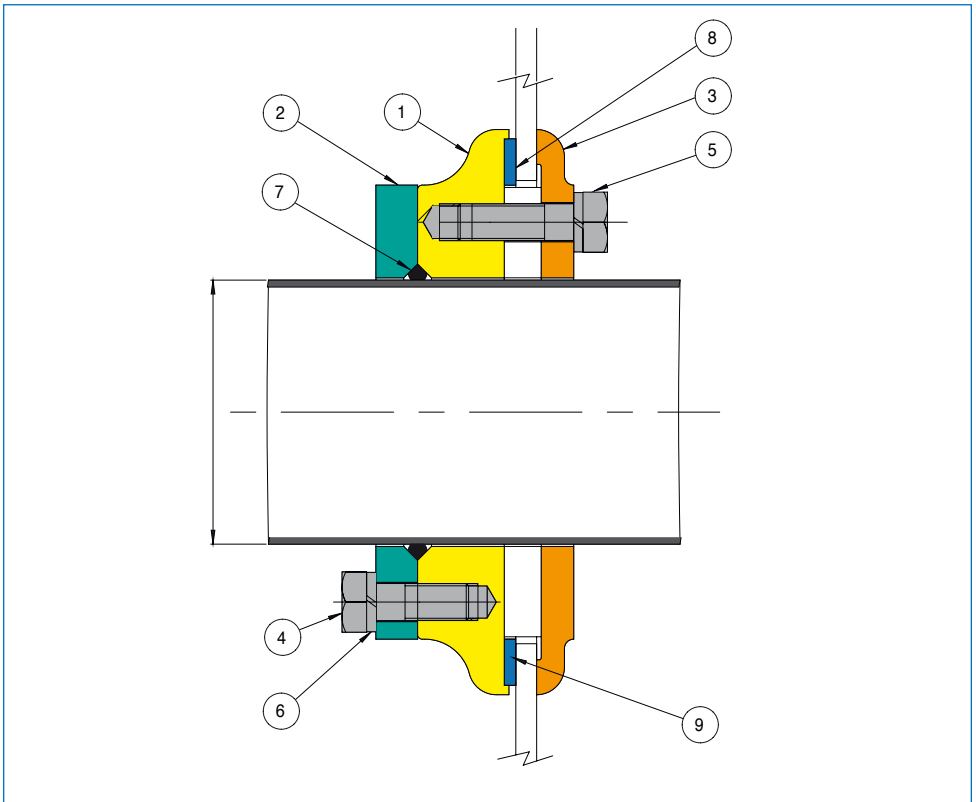


Fig. A

POS.	PART NAME	MATERIALS STANDARD	MATERIALS ALUMINIUM
1	Disk A	Spheroidal cast iron	Aluminium
2	Disk B	Stainless steel AISI 304	Aluminium
3	Disk C O-ring	Stainless steel AISI 304	Aluminium
4	Screws M8 x 22	Stainless steel AISI 304	
5	Screws M8 x 27 (Es. A) Screws M8 x 35 (Es. B) Screws M8 x 40 (Es. C) Screws M8 x 30 (Es. D)	Stainless steel AISI 304	
6	Washer	Stainless steel AISI 304	
7	O-ring	Rubber EPDM	
8	Sealing gasket on the structure	Rubber EPDM	
9	Heat expanding gasket	Intumescent material	

Tab. A

Depending on thickness of deck or bulkhead to be penetrated, four different executions for each penetration are available i.e.:

Executions	Execution A	Execution B	Execution C	Execution D
Thickness	from 3 to 8 mm	from 8 to 14 mm	from 14 to 20 mm	from 6 to 10 mm











Therefore, the pipe diameter and type of execution, for each penetration, are to be specified in the order see table B page 8.

Dimensions

∅ Tube mm	Overall dimension mm	∅ hole in deck/ bulkhead mm	CODE	Kg	∅ Tube mm	Overall dimension mm	∅ hole in deck/ bulkhead mm	CODE	Kg
6	80	58	239191127	0,90	50	110	88	239191075	1,73
8	80	58	239191115	0,89	53	122	100	239191013	1,72
10	80	58	239191099	0,88	54	122	100	239191013	1,72
12	80	58	239191101	0,87	57	122	100	239191041	1,65
14	80	58	239191021	0,85	60,3	122	100	239191037	1,57
15	80	58	239191001	0,85	73	138	116	239191033	1,93
16	80	58	239191023	0,84	75	138	116	239191073	1,85
17,2	80	58	239191069	0,83	76,1	138	116	239191015	1,82
18	80	58	239191003	0,82	88,9	153	131	239191017	2,10
20	85	63	239191025	0,93	102	166	144	239191057	2,30
21,3	85	63	239191067	0,92	108	176	154	239191019	2,75
22	85	63	239191005	0,91	110	176	154	239191071	2,68
25	92	70	239191063	1,12	114,3	176	154	239191045	2,45
26,9	92	70	239191065	1,10	133	197	175	239191047	2,90
28	92	70	239191007	1,10	139,7	205	183	239191049	3,10
30	92	70	239191061	1,04	142,3	205	183	239191051	2,95
33,7	100	78	239191027	1,30	159	223	201	239191053	3,35
35	100	78	239191009	1,23	168	232	210	239191055	3,35
38	100	78	239191059	1,20	219	283	261	2391910129	4,30
42	110	88	239191011	1,50	267	335	313	239191043	5,90
44,5	110	88	239191039	1,43	273	335	313	239191031	5,90
48,3	110	88	239191035	1,35					

Tab. B

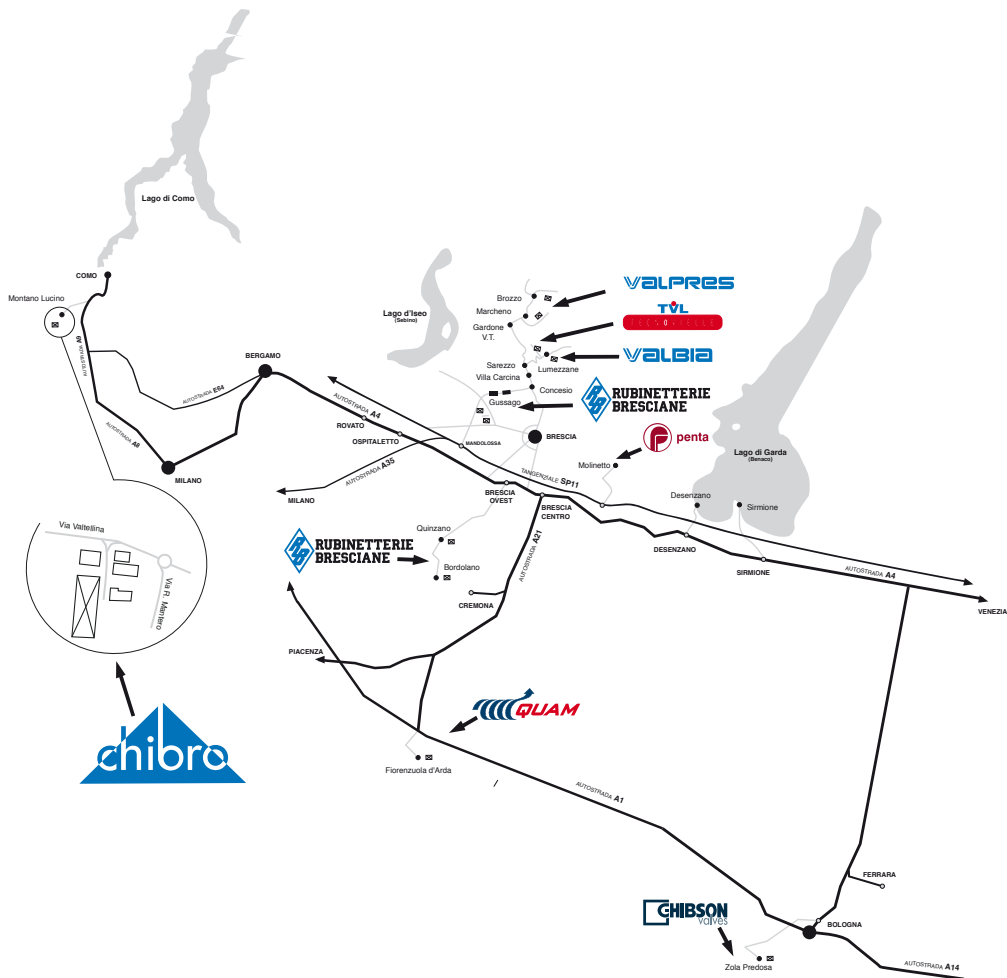
Approvals

	RINA Registro Italiano Navale- Marine Equipment Directive 2014/90/EU	
	Lloyd's Register Marine	
	ABS	
	DNV GL	
	Bureau Veritas Industry and Marine Division	

Installation procedure

- 1) **Cut a hole in the structure** with the diameter indicated in the table see table B page 8 for the corresponding pipe size re-coat area around hole.
 - 2) **Check that the type of penetration is suitable** for the thickness of the bulkhead or deck on which it is to be mounted Fig. A page 6.
 - 3) **Install discs A and B**, one on either side of the hole, and connect them together tightening the screws supplied and pre-mounted on discs A.
 - 4) **Insert the pipe into the two discs** checking beforehand that the pipe is not ovalised or dented, is clean and free of burrs at the edge. It must be inserted far enough to allow the operation to be completed.
 - 5) **Insert the O-ring** onto the pipe and roll it up to the seat of **disc A**.
 - 6) **Insert disc C onto the pipe and connect it to disc A** by means of pre-mounted screws $\varnothing 8 \times 22$. The length of these screws is the same for the 4 different executions (A, B, C, D) of the penetration system.
- Caution:** Never exchange these screws with those of the opposite discs!
- 7) **Tightening of screws should be possibly done with a torque wrench** set at 10 N/mt.

WE ARE HERE





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