RAPIDPRESS

SHOCK TEST

Supplying to all of **New Zealand**

THEMETALCOMPANY

RAPIDPRESS

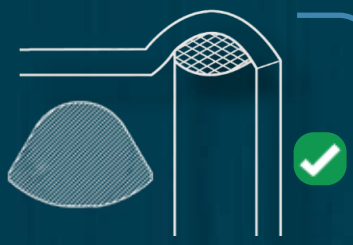
RAPID INSTALLATION MADE EASY!

INTELLECTUAL PROPERTY PATENTED

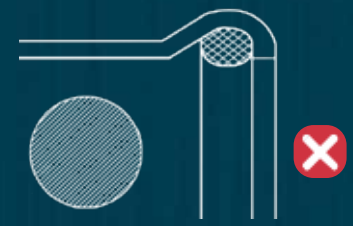
LENTICULAR SEAL

20%

MORE SEAL COVERING + EASIER TO INSERT



RAPIDPRESS



OTHER BRANDS

CATALOGUE & TECHNICAL GUIDE AVAILABLE

SCAN TO VIEW THE TECHNICAL GUIDE

FULL RANGE OF PRESS-FIT AVAILABLE ONLINE

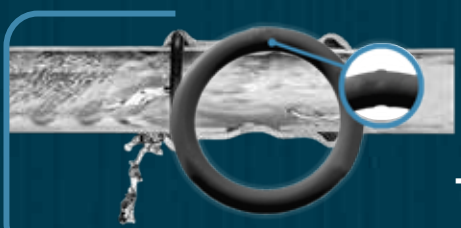
SCAN TO VIEW FULL PRODUCT RANGE

CUT | DEBURR | WITNESS MARK | ASSEMBLE | PRESS

SEE TECHNICAL GUIDE FOR FULL PROCESS

TEST CERTIFICATES AVAILABLE

Indelibly marked with heat number



LEAK BEFORE PRESS SEAL UP TO 54MM

DVGW

WaterMark

RAPIDPRESS

Supplying to all of **New Zealand**



INOX RAPIDPRESS

Stainless grade 304 & 316
Pressure rating 16 bar
-20 / +120°c

INOX EXTREME RAPIDPRESS

Stainless Grade 304 & 316
Pressure rating 16 bar
-20 / +220°c

INOX GAS RAPIDPRESS

Stainless Grade 316
Pressure rating 5 bar
-20 / +70°c

INOX STEAM RAPIDPRESS

Stainless Grade 316
Pressure rating 7 bar
-20 / +165°c

ITALIAN MADE

3rd largest press fit manufacturer in the world!

HUGE SIZE RANGE

Diameters (mm)

15	76
22	88.9
28	108
35	139
42	168
54	

APPLICATIONS

- Potable Water
- Fire Protection
- Compressed Air
- Cooling
- Heating
- Wastewater
- Natural Gas
- Solar Thermal
- Process Water
- Steam

TOOLING

RapidPress crimping tools are available for hiring or purchase.

NATIONWIDE DELIVERY

Supplying to all of New Zealand

SAME DAY DISPATCH

On courier orders before 4:00pm

FREE COURIER

On all website orders over $50+GST for Trade Account

ORDER ONLINE 24/7

View our entire range at **www.themetalcompany.co.nz/rapidpress**

THEMETALCOMPANY

About The RapidPress System

With the **RapidPress INOX** Stainless Steel press fit system for potable water, compressed air, steam and gas installations, **RapidPress Steel** for closed hot water heating systems, **RapidPress Copper** for potable water and gas installations and **RapidPress Copper-Nickel** for marine sector, **RapidPress** offers a comprehensive press-fit range in the dimension range from 12 - 168.3 mm OD, together with piping pressing tools and accessories.

What are the benefits?

RELIABILITY
Our RapidPress system is designed to be used with M profile press jaws. The pressing tools have built-in safety features to ensure a consistently perfect press and complete seal every time.

EFFICIENCY
Rapid Installation. The assembly process is simple, easy, and user-friendly, and does not require qualified welders.

QUALITY
RapidPress products are made from high-quality stainless steel grade 316L, which is highly resistant to corrosion and meets the WaterMark™ certification. The standard black EPDM O-rings are resistant to aging, heat, and chemical additives.

LENTICULAR SEAL
Our Patented Lenticular seal profile allows for 20% more sealed surface area than other seals, and is easier to insert. Up to 54mm features leak before press seals, and various seal materials are available, including EPDM, FKM, and HNBR.

TEST CERTIFICATES
We are the only press-fit supplier able to supply test certificates for all fittings and tubes. Each fitting is Indelibly marked with a heat number.

SAFETY
The RapidPress system eliminates naked flames, hot work permits, gas bottles, fire hazards, and heavy installation equipment, making it easier to comply with safety requirements.

LABOUR SAVING
RapidPress saves time and reduces labour costs by requiring fewer installation hours on site and lower skilled tradesmen to carry out installations.

CONSISTENCY
Every connection in the installation is uniform and consistent, eliminating the need for re-work due to inconsistency of connection quality.

Product Range	Material	O-Ring	Diameters	Min/Max Degrees Celsius & Pressure	Note
RAPIDPRESS INOX	STAINLESS STEEL	EPDM	Ø 15 - 168.3 mm	-20 / +120°C 16 bar Max 16 bar	Ø139.7 - 168.3mm Oversize
RAPIDPRESS EXTREME	STAINLESS STEEL	FKM	Ø 15 - 108 mm	-20 / +220°C 16 bar Max 16 bar	FKM Seal
RAPIDPRESS GAS	STAINLESS STEEL	NBR - HNBR	Ø 15 - 108 mm	-20 / +70°C 5 bar Max 5 bar	Methane, Natural Gas & LPG
RAPIDPRESS STEAM	STAINLESS STEEL	STEAM	Ø 15 - 54 mm	-20 / +165°C 7 bar Max 7 Bar	--

Stainless Steel Inox Specifications

GENERAL APPLICATION

RapidPress INOX press fittings are made of high-alloyed austenitic stainless Cr-Ni-Mo steel (AISI 316L/1.4404) and marked with the manufacturer name, diameter, DVGW test symbol, and internal code. The press fittings come with a black EPDM seal ring standardly fitted. These high-quality components are perfect for heating, cooling, compressed air, oil, and diesel lines in various sectors, including food & beverage, industrial, civil, and manufacturing.

Pressure & Temperature Rating

- Standard Maximum operating pressure: 230PSI / 16Bar
- Up to 928PSI / 64Bar available on approved applications.
- Operating temperature: -20°C / +120°C
- Maximum temperature: 220°C with RapidPress Extreme.

Manufacturing Standards

The RapidPress system uses metric size fittings and tube which is made to standard:

- **EN10217-7**
- **EN10312**

WaterMark™ Approval

The RapidPress system is WaterMark™ approved for use with potable water when using stainless steel grade 316L. This certifies the product complies with the plumbing code and the relevant standards.

In this range

45° & 90° Elbows, Spiggots & Wing Backs
Tee's
Couplers
Unions
Adapters - BSP, Tri Clover & RJT
Metric RapidPress Tube
Valves
Flanges
Clamps
RapidPress Extreme
RapidPress Tools
RapidPress Pressing Tools

Tooling

RapidPress crimping tools are available for hire or purchase.

Seal Specifications

BLACK EPDM 0-RING SEAL

The black EPDM rubber seal is standard for stainless steel and carbon steel systems. EPDM is suitable for temperatures between -20 and +120 °C and for pressures up to a maximum of 230PSI / 16Bar. It has a host of applications and is used for drinking water, heating, cooling, steam, fire fighting, compressed air (oil free) and inert gas systems.

GREEN FKM 0-RING SEAL

The green FKM seal is used in high temperature or with harsh chemicals. It is suitable for temperatures between -20 and +220 °C and for pressures up to a maximum of 230PSI / 16Bar.

YELLOW HNBR O-RING SEALS

The yellow HNBR seals are used with our gas rated press-fit system as they are resistant to ageing and heat. They are suitable for temperatures between -20°C and +70°C, and for pressures up to a maximum of 70 PSI or 5Bar.

WHITE STEAM O-RING SEALS

The White seals are used for saturated steam press-sit system suitable for temperatures between –20 and 165°C and a maximum pressure of 7 absolute bars. The STEAM o-ring is compatible with hydrocarbons, oils and other aggressive substances.

Available Sizes

METRIC TUBE & FITTINGS

The RapidPress system uses metric size fittings and tube. Below are common stocked sizes in stainless steel grade 316L including 15, 22, 28, 35, 42, 54, 76.1, 88.9, 108, 139.7 and 168.3.

Size	Outside Diameter	Wall Thickness
15	15.0 mm	1.0 mm
22	22.0 mm	1.2 mm
28	28.0 mm	1.2 mm
35	35.0 mm	1.5 mm
42	42.0 mm	1.5 mm
54	54.0 mm	1.5 mm
76	76.1 mm	1.5 mm
88.9	88.9 mm	2.0 mm
108	108.0 mm	2.0 mm
139.7	139.7 mm	2.0 mm
168.3	168.3 mm	2.0 mm

Contents

Report n. 15227	Rev. 01	Data emissione / Issue date 26/02/2024

Titolo / Title

Tests Results of environmental vibration resistance on series of accessories made by RACCORDERIE METALLICHE

Autori / Authors

F.Gaggero

Sommario / Abstract

The results of environmental vibration resistance tests for the qualification of a series of accessories from RACCORDERIE METALLICHE are described in this report

The tests were carried out using the MTS model 84103D vibrating table in the CETENA laboratory in Riva Trigoso, on behalf of RACCORDERIE METALLICHE SpA

This report is the English version of Cetena Test Report 11379.

This Report Cancels and replaces Cetena Test Report 15227 Rev 00.

Autori / Authors	*Verificato / Verified*	*Approvato / Approved*
		

Circolazione / Circulation

Interna / Internal Only

Libera / Free

X Riservata Industriale / Commercial in confidence

Classificata / Classified

Codici di distribuzione / Distribution codes

Raccorderie Metalliche SpA

Pagine / Sheets	*Commessa / Job*	*Note / Notes*
32	69170424021	ENG

1.0 Purpose

Tests Results of environmental vibration resistance on series of accessories made by RACCORDERIE METALLICHE

This report contains the Test Results of environmental mechanical vibration resistance for the qualification of a series of items/components made by RACCORDERIE METALLICHE (RM).
The tests were carried out using the MTS electro-hydraulic table model 84103D of the CETENA Laboratory in Riva Trigoso.
The tests were directly requested by RACCORDERIE METALLICHE SpA, with acceptance via email on 4/07/2012 in reference to Cetena statement offer no 142/12.
The test specifications according to NAV 30 A002 for vibration testing.

2.0 Descripition of the Tested Components

The tests concerned the following RM Inoxpress stainless steel components:
Item of test assembly:

- 88 3pc Ball Valve
- 76 3pc Ball Valve
- 33 3pc Ball Valve
- 108 - 76 Reducing Tee
- 76 Bend
- 54 Bend
- 54 - 35 Reducing Coupler
- 108 - 88 Reducing Coupler
- 108 - 54 Reducing Coupler
- 88 PN16 Flange
- 76 PN16 Flange
- 35 PN16 Flange

For details of items tested, please refer to the official Raccorderie Metalliche Catalogue. The items under test was mounted

3.0 Environmental Mechanical Vibration Test

3.1 - Test Methodologies

The Raccorderie Metalliche Items of were clamped on a plate attached to the support surface of the vibrating table.

3.2 - Test Installation and Conduct

The assembled components were sequentially subjected to vibration testing in the three main directions: vertical, transverse, longitudinal.
For each direction, three types of tests were carried out:

Exploratory test: the components were subjected to a sinusoidal vibration with a frequency variable from 4 to 50 Hz with an incremental speed of 15 seconds/Hz and a profile of the following characteristics:

Frequency Amplitude	Range Peak-to-Peak
4 - 33 Hz	0.25mm ±0.05 mm
34 – 50 Hz	0.10 mm ±0.02 mm

Variable Frequency Test: The components were subjected to a sinusoidal vibration with variable frequency from 4 to 50 Hz with an incremental speed of 5 minutes/Hz and a profile of the following characteristics:

Frequency Amplitude	Range Peak-to-Peak
4 – 15 Hz	1.00 mm ±0.15 mm
16 – 24 Hz	0.50 mm ±0.10 mm
25 – 33 Hz	0.25 mm ±0.05 mm
34 – 50 Hz	0.10 mm ±0.02 mm

Durability Test: since the variable frequency tests did not show any critical resonance conditions, the items were tested at a frequency of 50 Hz with an amplitude of 0.1 mm 0-peak

3.3 - Operation Mode of Test Assembly

The assembled components with their pipe sections (as per the attached drawings) were pressurized with water.
The pressure was then monitored by means of a pressure gauge to check the absence of significant leaks.

3.4 - Condition of the Plant During the Test

During the environmental mechanical vibration test, the behavior of the plant was checked with the Scadas III acquisition system and with some accelerometers, the description of which is shown in the below table:

Position	Model	S/N
Table	4370	30262
T- Junction	4384	1872203
Valve DN 80	4384	30601

The signal analysis and frequency response using the FRF (Frequency Response Function) was performed using the Tracked Sine Dwell program provided by LMS No resonance frequency was detected during the tests for any of the components tested In Annex 4 are reported:

- FRF of exploratory tests
- FRF of variable frequency tests
- Diagrams of accelerations measured in the durability test

3.5 - Criteria for Passing the Test

The test was considered “passed” as the system was substantially intact in every part and the static pressure did not fall below 10% of the operating pressure.

3.6 - Documentation of the Environmental Mechanical Vibration Test

At the end of the test, a document was issued Test Data Sheet (see attachment section) certifying the execution of the tests and the outcome of the test itself with the signature of the persons in charge present. This document is fully annexed to this report.

4 - Results - Environmental Mechanical Vibration Test

The following items:

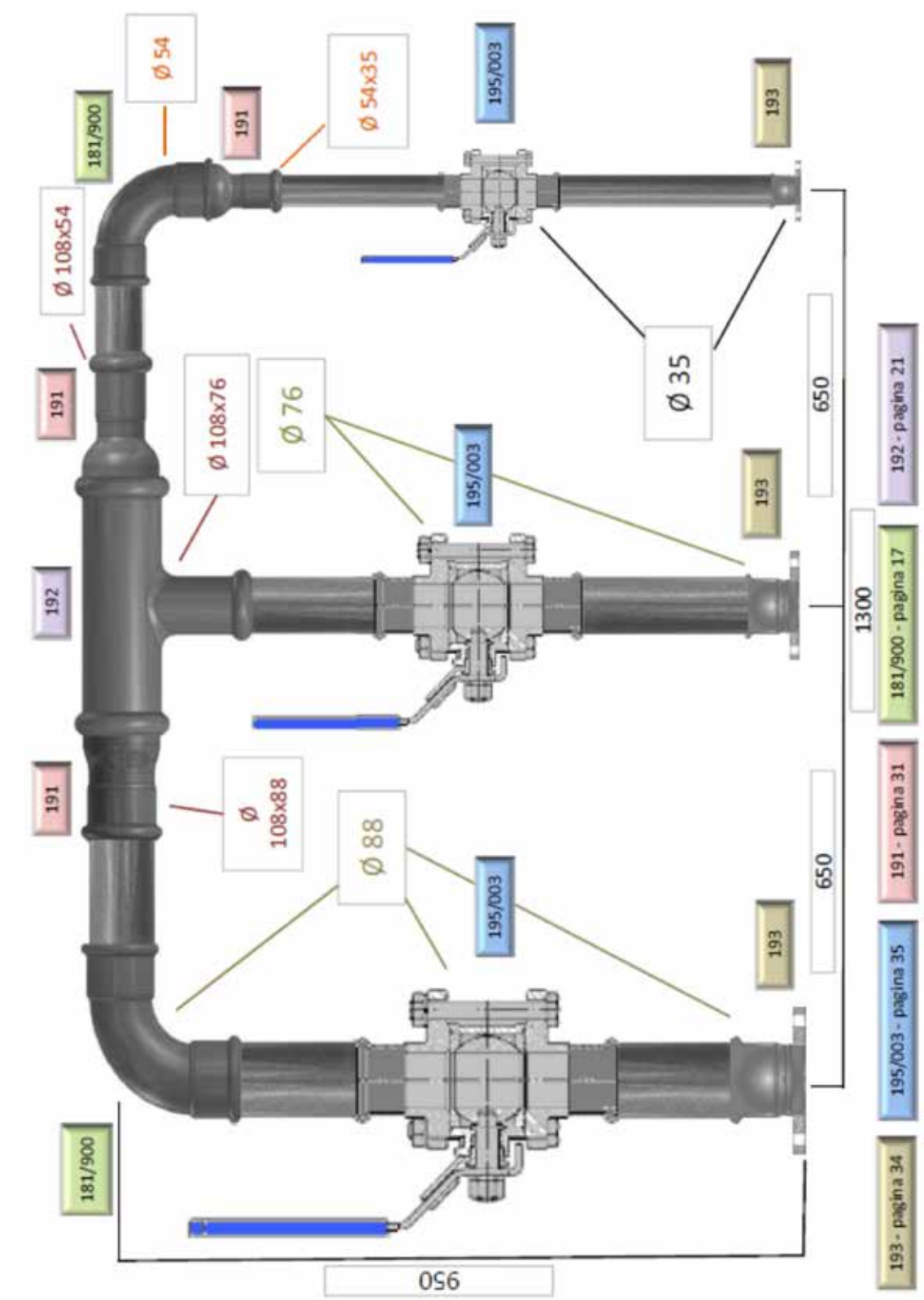
- 88 3pc Ball Valve
- 76 3pc Ball Valve
- 33 3pc Ball Valve
- 108 - 76 Reducing Tee
- 76 Bend
- 54 Bend
- 54 - 35 Reducing Coupler
- 108 - 88 Reducing Coupler
- 108 - 54 Reducing Coupler
- 88 PN16 Flange
- 76 PN16 Flange
- 35 PN16 Flange

No damage observed due to environmental mechanical vibrations was reported during the tests carried out in the three directions

5- Attachments

1. Assembly Drawing
2. Photographs
3. Test Data Sheet
4. Graphs
5. Copy of the Test Report

5.1 - Assembly Drawing



5.2 - Photographs

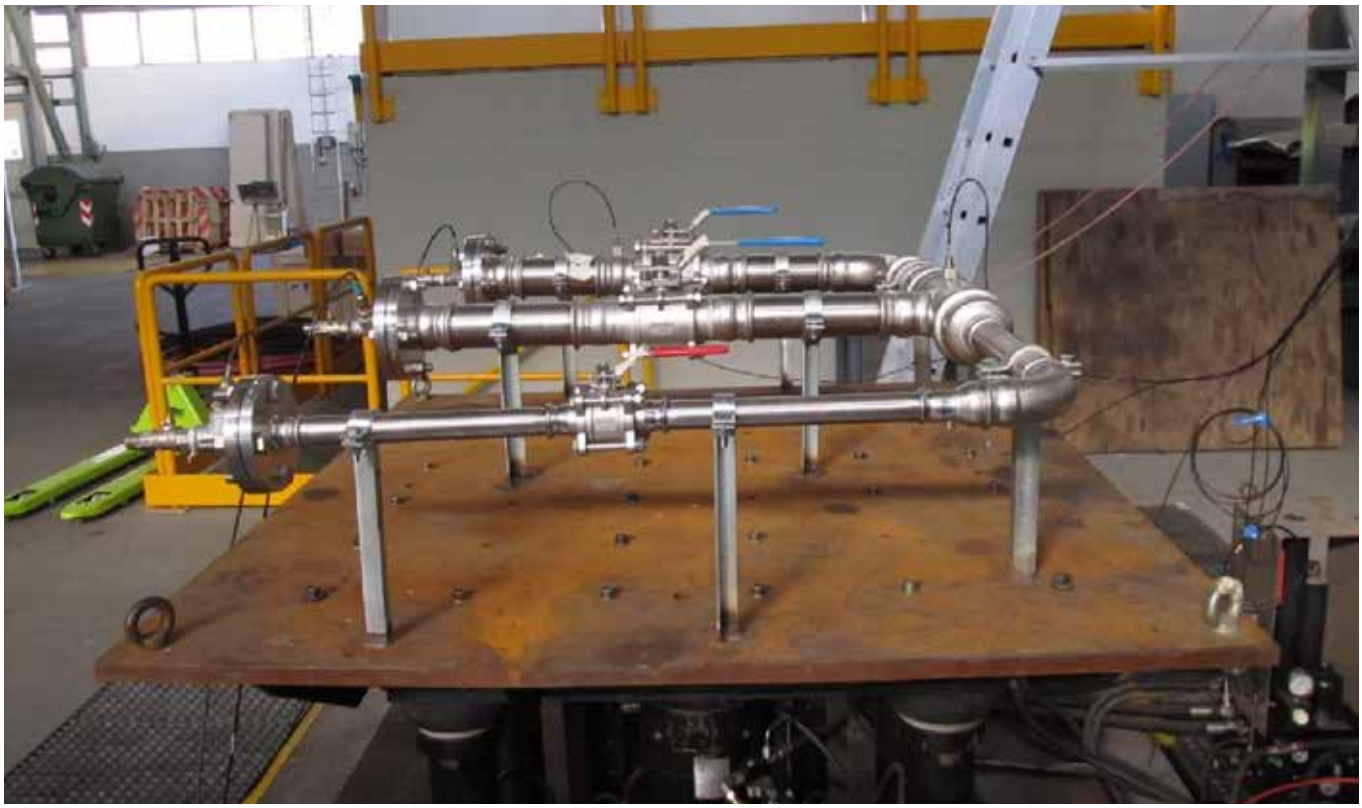


Figure 1 – Vertical Direction

Figure 2 – Position of Accelerometers (Valve)

Figure 3 – Position of Accelerometers (T Junction)

Figure 4 – Position of Accelerometers (Table)

Figure 5 – Transversal Direction

Figure 3 – Longitudinal Direction

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MECHANICAL VIBRATIONS OF SHIPBOARD EQUIPMENT n. 4

TEST DOCUMENT N°	4 /12	RIVA TRIGOSO:	26/07/2012
ITEM DESCRIPTION:	Inoxpress stainless-steel components. Ball Valve DN 80, DN65, DN32; T fitting DN 100-65-100; Elbow fitting DN80; DN50; Reduction DN50-DN32, DN 100-80, DN 100-50; Flange DN 80, DN65, DN32, PN16.		
MANUFACTURER:	RACCORDERIE METALLICHE	DRAWING N°: Rif. Catalogue	SERIAL N° --
CETENA JOB N°: 6917042120	DATE: 10/07/2012	ITEM WEIGHT [Kg]: --	ASSEMBLED WEIGHT [Kg]: 470
RESILIENT MOUNTS:	--	VIBRATION TABLE: MTS Type 841.03D	
SERVICE:	VBS: Different types	BOARD LOCATION:	Engine Room
ELECTRIC MOTOR:	--	MILITARY SPECIFICATION:	NAV30A002

VIBRATION TEST	DIRECTION	AMPLITUDE	TEST FREQUENCY [Hz]	DURATION TEST	FUNCTIONALITY TEST	RESONANCE FREQUENCY (Hz)
EXPLORATORY TEST	VERTICAL	0,25 mm	4-33	12 min.	OK	4,8
		0,10 mm	34-50			
	TRANSVERSAL	0,25 mm	4-33	12 min.	OK	45,8
		0,10 mm	34-50			
	LONGITUDINAL	0,25 mm	4-33	12 min.	OK	45,7
		0,10 mm	34-50			
VARIABLE FREQUENCY TEST	VERTICAL	1 mm	4-15	3,5 hours	OK	4,8
		0,5 mm	16-24			
		0,25 mm	25-33			
		0,10 mm	34-50			
	TRANSVERSAL	1 mm	4-15	3,5 hours	OK	45,8
		0,5 mm	16-24			
		0,25 mm	25-33			
		0,10 mm	34-50			
	LONGITUDINAL	1 mm	4-15	3,5 hours	OK	45,7
		0,5 mm	16-24			
		0,25 mm	25-33			
		0,10 mm	34-50			
ENDURANCE TEST	VERTICAL	0,1 mm	4,8	120 min	OK	4,8
	TRANSVERSAL	0,1 mm	45,8	120 min	OK	45,8
	LONGITUDINAL	0,1 mm	45,7	120 min	OK	45,7

ATTENDING STAFF			CETENA RESPONSIBLE
CETENA	FINCANTIERI	RACCORDERIE METALLICHE	Ing. P. Calcagno
Dott. F. Gaggero	Ing. Restivo	Sig. Fulegatti Luca	TEST RESULT
			FAVOURABLE

5.4 - Graphs

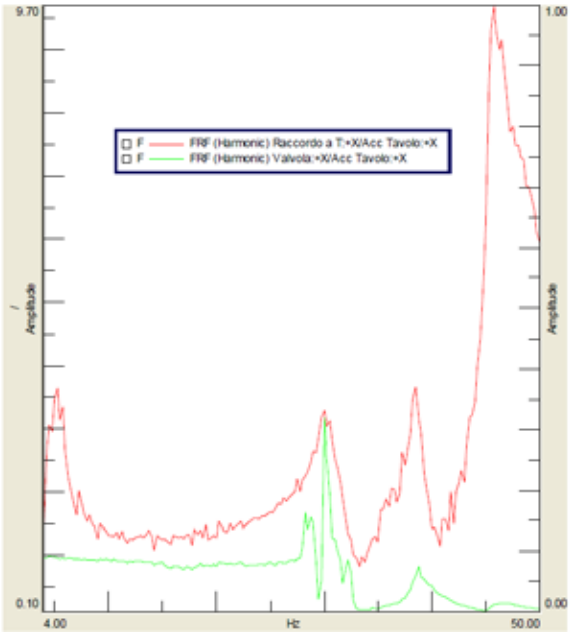

Figure 1 – Longitudinal Direction: FRF Exploratory Test
FRF TJunction/Table Accelerometer
FRF Valve/Table Accelerometer

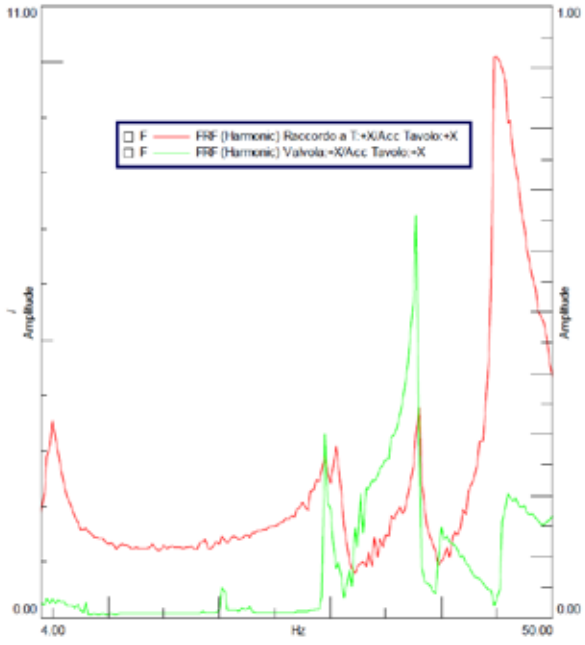

Figure 2 – Longitudinal Direction: FRF Variable Frequency Test
FRF TJunction/Table Accelerometer
FRF Valve/Table Accelerometer

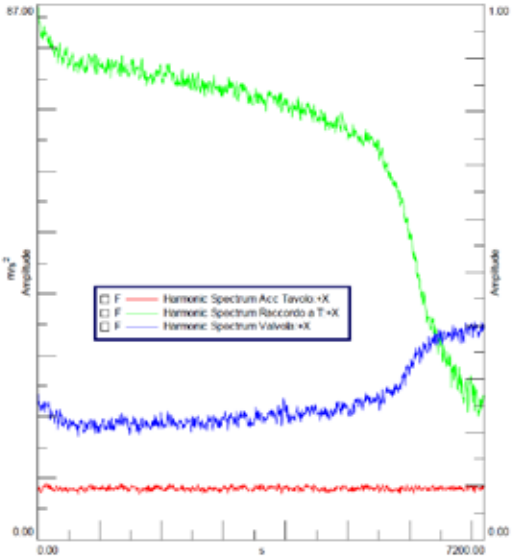

Figure 3 – Longitudinal Direction: Durability Test
Valve Accelerometer, T Junction Accelerometer, Table Accelerometer

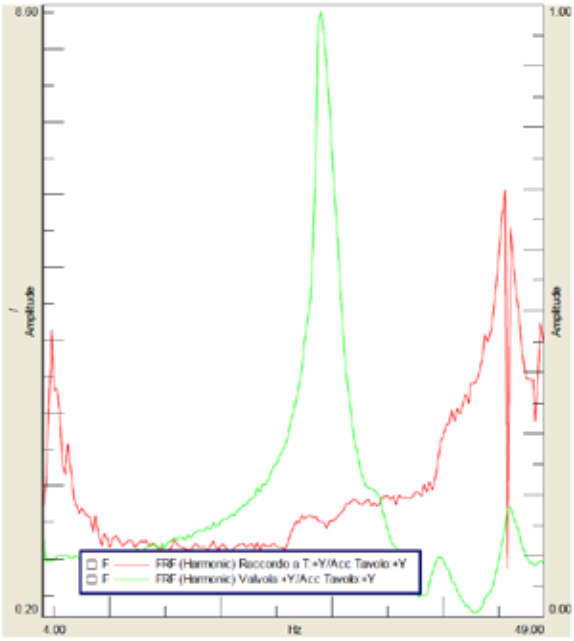

Figure 4 – Transverse Direction: FRF Exploratory Test
FRF TJunction/Table Accelerometer
FRF Valve/Table Accelerometer

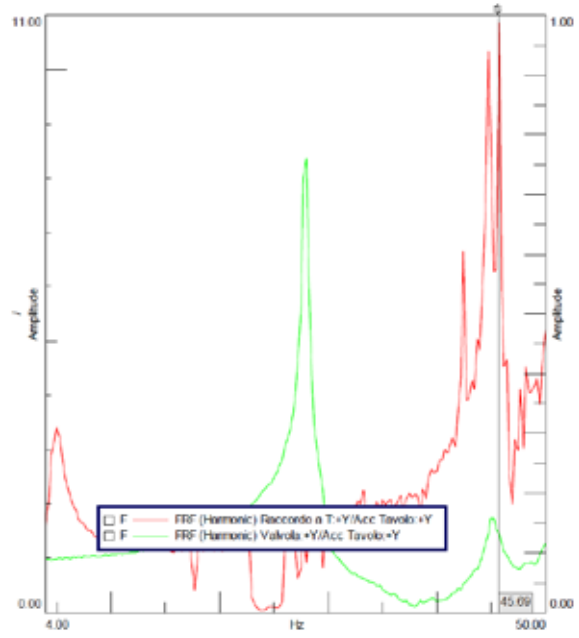

Figure 5 – Transverse Direction: FRF Variable Frequency Test
FRF TJunction/Table Accelerometer
FRF Valve/Table Accelerometer

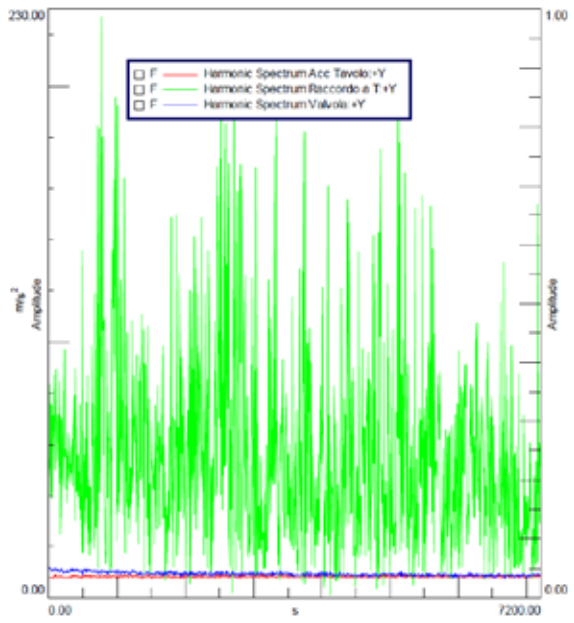

Figure 6 – Transverse Direction: Durability Test
Valve Accelerometer, T Junction Accelerometer, Table Accelerometer

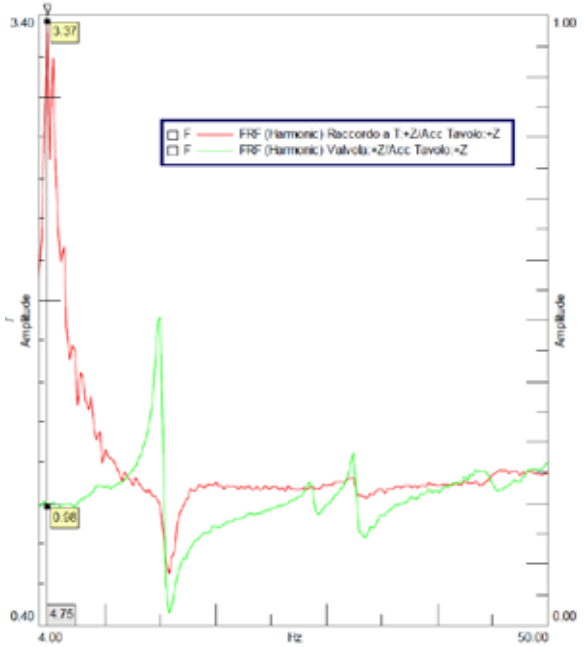

Figure 7 – Vertical Direction: FRF Exploratory Test
FRF TJunction/Table Accelerometer
FRF Valve/Table Accelerometer

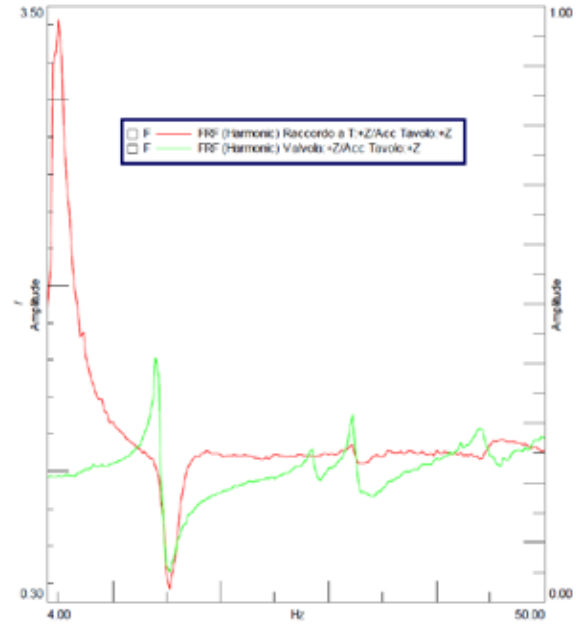

Figure 8 – Vertical Direction: FRF Variable Frequency Test
FRF TJunction/Table Accelerometer
FRF Valve/Table Accelerometer

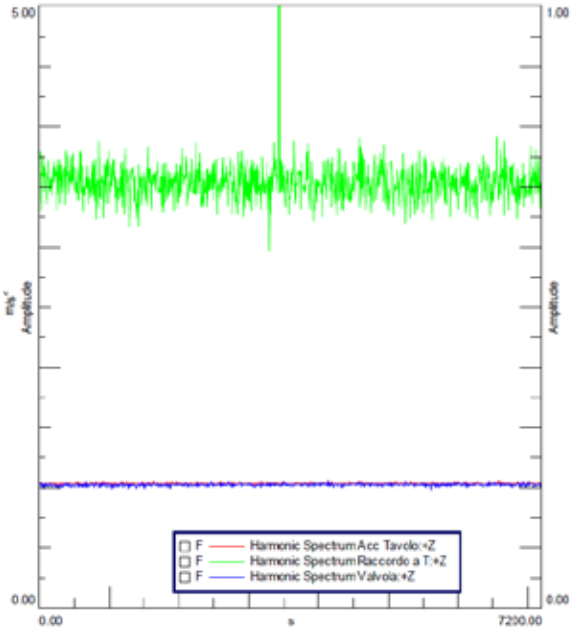

Figure 9 – Vertical Direction: Durability Test
Valve Accelerometer, T Junction Accelerometer, Table Accelerometer

5.5 - Copy of Test Report

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CERTIFICATO DI VIBRAZIONE MECCANICA AMBIENTALE MECHANICAL VIBRATIONS CERTIFICATE	4/12	Eseguito a Riva Trigoso il: Test carried out at RIVA TRIGOSO on:	26/07/2012
Test richiesto da Test requested by	**RACCORDERIE METALLICHE**		PAGINA/PAGE 1/2
Descrizione dell'esemplare in prova Description of the tested item	Inoxpress stainless-steel components. Ball Valve DN 80, DN65, DN32; T fitting DN 100-65-100; Elbow fitting DN80; DN50; Reduction DN50-DN32, DN 100-80, DN 100-50; Flange DN 80, DN65, DN32, PN16.		
Unità / Unit --			
Ditta fornitrice Manufacturer	RACCORDERIE METALLICHE	Dis N° Drawing N°	Rif. Catalogue
		Matricola N° S/N	--
Locazione a bordo On board location	Engine Room	Servizio Service	VBS: Different types
Tipo di Esemplare Item type	--	Macchina impiegata/Machine used:	Electroidraulic table MTS mod. 841.03D
Tipo di resilient/Resilient mounts type: --	Peso esemplare (kg) -- Item weight	Peso in prova (Kg) Total weight during the test	470
Condizioni di Funzionamento Working conditions	Valves, Flanges and Junctions tested a nominal operating pressure		
Specifica di Prova Test specification	Nav 30 A 002	Eccezioni alla Specifica test rules exceptions	--
Esito della Prova Test result	Superata The equipment has satisfied the test		
Eventuali suggerimenti Possible suggestions	N.N.		

TEST	DIREZIONE DIRECTION	AMPIEZZA AMPLITUDE	TEST FREQUENCY (Hz)	DURATA ENDURANCE	TEST FUNZIONALE FUNCTIONAL TEST	FREQUENZA DI RISONANZA RESONANCE FREQUENCY (Hz)
ESPLORATIVA EXPLORATORY	VERTICAL	0,25 mm	4-33	12 min.	OK	4,75
		0,10 mm	34-50			
	TRANSVERSAL	0,25 mm	4-33	12 min.	OK	45,8
		0,10 mm	34-50			
	LONGITUDINAL	0,25 mm	4-33	12 min.	OK	45,7
		0,10 mm	34-50			
FREQUENZA VARIABILE VARIABLE FREQUENCY	VERTICAL	1 mm	4-15	3,5 hours	OK	4,8
		0,5 mm	16-24			
		0,25 mm	25-33			
		0,10 mm	34-50			
	TRANSVERSAL	1 mm	4-15	3,5 hours	OK	45,8
		0,5 mm	16-24			
		0,25 mm	25-33			
		0,10 mm	34-50			
	LONGITUDINAL	1 mm	4-15	3,5 hours	OK	45,7
		0,5 mm	16-24			
		0,25 mm	25-33			
		0,10 mm	34-50			
DURATA ENDURANCE	VERTICAL	0,1 mm	4,75	120 min	OK	4,75
	TRANSVERSAL	0,1 mm	45,80	120 min	OK	45,8
	LONGITUDINAL	0,1 mm	45,70	120 min	OK	45,7

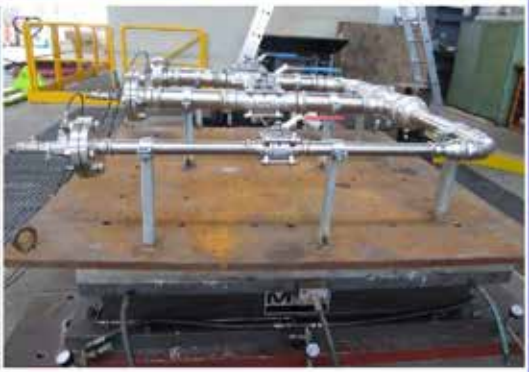
Collaudo funzionale eseguito da Functional test performed by	CETENA SpA	In	Documento Document
Prova di integrità eseguita da Integrity test performed by		In	Documento Document
Risultato Result			
Eventuali osservazioni - note Possible observations - notes			

CETENA S.r.l.
CENTRO PER GLI STUDI DI TECNICA NAVALE

CERTIFICATO DI VIBRAZIONE MECCANICA AMBIENTALE MECHANICAL VIBRATIONS CERTIFICATE	4/12	Eseguito a Riva Trigoso il: Test carried out at RIVA TRIGOSO on: 26/07/2012
Test richiesto da Test requested by	**RACCORDERIE METALLICHE**	PAGINA/PAGE 2/2
Descrizione dell'esemplare in prova Description of the tested item	Inexpress stainless-steel components. Ball Valve DN 80, DN65, DN32; T fitting DN 100-65-100; Elbow fitting DN80; DN50; Reduction DN80-DN32, DN 100-80, DN 100-50; Flange DN 80, DN65, DN32, PN16.	
Unità / Unit –		

FOTOGRAFIE O SCHIZZO DELL'ESEMPLARE IN PROVA
TESTING ITEM PICTURES OR DRAWINGS

vibrazione verticale
vertical vibration



vibrazione longitudinale
longitudinal vibration

vibrazione trasversale
transversal vibration

Visti i risultati delle prove, si certifica che il componente ha superato la prova prevista dalla NAV30 A 002
According to test results, it is certified that the components has satisfied the test in accordance with NAV 30 A002

CETENA

FIRME
SIGNATURES

CIRCOLAZIONE
DISTRIBUTION

NOTES

NOTES

NOTES

NOTES

RAPIDPRESS

Bends

Spigot Bends

BSP Elbows

BSP Bends

Tees

Couplers

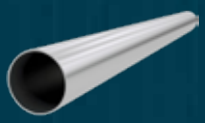
Unions

Tri Clover/ RJT Unions

BSP Adapters

RJT & Tri Clover Adapters

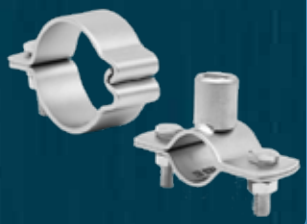
Tube 304 & 316



Valves

Flanges

Clamps



BSP Spigots

BSP Wall Brackets

FlexiFlow Hose

End Caps

Reducers

Camlocks

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