

KIWA NUCLEAR
TYPKONTROLLINTYG
TYPE INSPECTION CERTIFICATE

FÖRETAG/COMPANY

RINGO VALVULAS S.L
SAMSON RINGO

Calle Romero N°6 & N°8
Polígono Industrial Empresarium
50720 Zaragoza
Spain

SERIETILLVERKADE / SERIAL PRODUCED

GLOBE VALVES
BELLOW SEALED GLOBE VALVES
CHECK VALVES
BALL VALVES
GATE VALVES

I KVALITETSKLASS / IN QUALITY CLASS

1,2,3,4 & 4A

TYPKONTROLLINTYG NR.: / TYPE INSPECTION CERTIFICATE NO.:

117448

Utfärdad / Date of authorization: 17th November 2021

Giltig till / Valid until: 31st December 2024

Revisionsnr / Revision no.: 16

Revisionsdatum / Revision date: 17th November 2021

Årliga uppföljningsrevisioner: / Yearly follow-up audits:

2020	2021	2022	2023	2024
Patrik Sandgren	Patrik Sandgren			
Alexander Wulff	Mikael Lorentzon			

TYPKONTROLLINTYG TYPE INSPECTION CERTIFICATE

Revision nr/Revision No.:

16

Typkontrollintyg nr.: / Type Inspection Certificate No.:

117448

Datum/Date:

17th November 2021

Innehållsförteckning/ Table of Contents

Sida/Page

1.	Tillverkning och kontroll / Manufacturing and inspection	4
	Företagsgodkännanden / Company qualifications	4
	Villkor / Conditions.....	4
2.	Konstruktionskontroll / Design review	5
	Omfattning av godkännande/Scope of approval	5
	Regler och förutsättningar för konstruktionsgranskning/ Rules and conditions related to product design review	5
	Konstruktionskontrollintyg / Design review certificate	5
3.	Materialspecifikationer / Material specifications	6
	Materiallista / Bill of materials.....	6
	Materialcertifikat / Material certificates.....	6
	Registrering och arkivering / Indexing, filing and storage.....	6
4.	Kvalitetssystem / Quality system	6
	Organisation och kvalitetssystem / Organization and quality system.....	6
	Kvalitetsmanual / Quality manual.....	7
	Genomförande / Implementation	7
5.	Inköp / Purchasing	7
	Bedömning av underleverantörer / Assessment of sub-contractors	7
	Kontraktsgenomgång / Contract review	7
6.	Processstyrning / Process control	7
	Arbetsinstruktioner / Work instructions	7
	Kontroll- och provningsstatus / Inspection and test status	7
	Behandling av avvikande produkter / Control of nonconforming products	7
7.	Svetsning / Welding	8
	Kvalificering för svetsning / Qualification for welding	8
	Företag / Company	8
	Procedurer / Procedure qualification record.....	8
	Svetsarprovning / Welder performance qualifications	8
	Svetsprocedurer / Welding procedure specifications	8
8.	Värmebehandling – Formning / Heat treatment – Forming	8
	Tillstånd / Authorization	8
	Värmebehandlingsprocedurer / Heat treatment specifications.....	8
	Formningsprocedurer / Forming specifications	9
9.	Oförstörande provning / Non destructive testing	10
	OFP-metoder / NDT-methods	10
	Certifieringssystem / Certification system	10
	OFP-procedurer / NDT-procedure	10
10.	Utrustning – Kalibrering / Equipment – Calibration	10
	Kontroll-, mät- och provningsutrustning/Inspection, measuring and test equipment.....	10
	Utrustning / Equipment	10
	Kalibrering och underhåll / Calibration and maintenance	10
	Kalibrering utförs av / Calibration performed by.....	10
11.	Kvalitetsplan / Quality plan	11
	Kontroll och provning / Inspection and testing.....	11
	Mottagningskontroll / Receiving inspection and testing.....	11
	Kontroll och provning under tillverkning / In-process inspection and testing.....	11

TYPKONTROLLINTYG TYPE INSPECTION CERTIFICATE

Revision nr/Revision No.:

16

Typkontrollintyg nr.: / Type Inspection Certificate No.:

117448

Datum/Date:

17th November 2021

Slutkontroll / Final inspection	11
Slutprovning / Final testing	11
12. Övrigt / Miscellaneous	12
13. Leverans / Delivery	12
Kvalitetsdokument / Quality records.....	12
Märkning och dokumentation / Marking and documentary evidence.....	12
Marking:	12
Bilagor / Appendices	13
Bilaga 1 / Appendix 1.....	14
Bilaga 2 / Appendix 2.....	15
Bilaga 3 / Appendix 3	16

TYPKONTROLLINTYG TYPE INSPECTION CERTIFICATE

Revision nr/Revision No.:
16

Typkontrollintyg nr.: / Type Inspection Certificate No.:
117448

Datum/Date:
17th November 2021

1. Tillverkning och kontroll / Manufacturing and inspection

Namngivet företag medges tillverka och leverera komponenter, i den omfattning som anges nedan, i enlighet med tillämpliga bestämmelser i

The named company is authorized to manufacture and supply components to the scope shown below in accordance with applicable rules and regulations in

- SSMFS 2008:13
- KBM edition 7

Bemyndigandet och tillämpningen är underkastade villkor som anges i detta typkontrollintyg.
The authorization and use are subject to provisions stated in this type inspection certificate.

Typkontrollintyget gäller endast under förutsättning av godkända årliga uppföljningsrevisioner. The type inspection certificate is only valid under the condition of approved yearly follow-up audits.

Tillverkare / Manufacturer		Representant / Representative	
Ringo Valvulas S.L		Ringo Nordic AB	
Referens / Reference		Referens / Reference	
María Ángel Gumiel		Bo Eriksson	
Adress / Address		Adress / Address	
Calle Romero N°6		Gulskärsvägen 12	
Polígono Industrial Empresarium		442 75 Lycke	
50720 Zaragoza Spain		Sweden	
Telefon / Telephone	Telefax / Facsimile	Telefon / Telephone	Telefax / Facsimile
+34 976 45 49 40	+34 976 45 48 40	+46 70 570 80 68	-
E-mail		E-mail	
magumiel@ringospain.com		beriksson@ringospain.com	

Företagsgodkännanden / Company qualifications

☒ 2014/68/EU	☒ ISO 9001:2015	☒ AD2000-Merkblatt HP 0	☐
☒ EN ISO 3834-2	☒ TRD 201	☒ ASME N, NPT	☐

Villkor / Conditions

1. Minimum wall thickness for welding ends must be calculated for the design data given by customer.
2. In case that seismic loads or pipe loads are present, a separate calculation is needed.

TYPKONTROLLINTYG TYPE INSPECTION CERTIFICATE

Revision nr/Revision No.:
16

Typkontrollintyg nr.: / Type Inspection Certificate No.:
117448

Datum/Date:
17th November 2021

3. Valves with minor design deviations can, after approved design review by Kiwa Inspecta Nuclear, be supplied according to the Type Inspection Certificate.
4. Cobalt based hardfacing is not allowed in valves in primary water systems.
5. For valves in quality class 1 hot tensile test according to KBM EP 2-03 is required.

2. Konstruktionskontroll / Design review

Omfattning av godkännande/Scope of approval

Godkända komponenter/Approved components:

Type	Dimension	Rating
Check Valve	DN15-DN50	PN16-PN250
Globe Valve	DN15-DN50	PN16-PN250
Ball Valve	DN15-DN50	PN16-PN160
Gate Valve	DN15-DN50	PN16-PN250
Bellows Globe Valve	DN15-DN50	PN16- PN250
”Y” Globe Valves	DN15-DN50	PN16- PN250

Regler och förutsättningar för konstruktionsgranskning/ Rules and conditions related to product design review

☒ SSMFS 2008:13 ☒ 2014/68/EU ☒ ASME III ☐

Konstruktionskontrollintyg / Design review certificate

☐ Nej/No

☒ Ja/Yes

thothu110304_1	thudan150701_3
thothu111018_1	sanpat170523-1
thothu120427_1	sanpat170627-1
hanmar120415_1	holbjo180508-1
hanmar130408_1	holbjo180508-2
hanmar140414_1	holbjo180508-3
hanmar140521_1	holbjo180508-4
hanmar141202_1	holbjo180509-1
thudan150313_1	holbjo180509-2
holbjo190408-1	sanpat190408-1
holbjo200422-2	holbjo200515-1
sanpat200604-1	sanpat200625-2
sanpat200626-1	sanpat201216-1

TYPKONTROLLINTYG TYPE INSPECTION CERTIFICATE

Revision nr/Revision No.:
16

Typkontrollintyg nr.: / Type Inspection Certificate No.:
117448

Datum/Date:
17th November 2021

3. Materialspecifikationer / Material specifications

Materiallista / Bill of materials

Materialspecifikationer / Material specifications:

Part	Material options		
	SS	CS	CS
Body, Bonnet	SA182 – F316L	SA182 F1 (1.5415)	SA105
	A182 – F316L	-	A105
Ball	SA182 – F316	-	SA182 – F316
	A182 – F316	-	A182 – F316
Disc, Wedge	SA479 – 316	SA182 F1 (1.5415)	SA479 – 316
	A479 – 316	-	A479 – 316
Stud	SA453 – Gr660B	SA 193 B7	SA 193 B7
	A453 – Gr660B	-	A 193 B7
Nut	SA194 – Gr6 T410	SA 194 2H	SA 194 2H
	A194 – Gr6 T410	-	A 194 2H
Bellow	SA182 – 316Ti	SA182 – 316Ti	SA182 – 316Ti

Materialspecifikation / Material specification

MPS-10-001 rev 2	Material procurement specification SS (Forgings SA-182)
MPS-10-002 rev 2	Material procurement specification SS (Forgings SA-479)
MPS-10-003 rev 4	Material procurement specification (Stems)
MPS-10-004 rev 3	Material procurement specification CS (Forged Valve parts SA-105)
MPS-10-005 rev 1	Material procurement specification for bellows.
MPS-10-006 rev 1	Material procurement specification CS (16Mo3, 1.5415)
MPS-10-007 rev 1	Material procurement specification forged austenitic-ferritic steel pressure retaining parts for valves
MPS-10-011 rev 0	Material procurement specification (Stems) XM19 SA182
MPS-10-012 rev 0	Material procurement specification (Stems) 1.4057

Registrering och arkivering / Indexing, filing and storage

PR-104 rev 5	Purchases
PR-106 rev 3	Inspection
IIP-01-001 rev 2	Incoming Inspection Procedure

The material certificates are stored in the quality department.

4. Kvalitetssystem / Quality system

Organisation och kvalitetssystem / Organization and quality system

☒ ISO 9001:2015 ☒ ISO 14001:2015 ☒ USNRC 10 CFR50APP B

TYPKONTROLLINTYG TYPE INSPECTION CERTIFICATE

Revision nr/Revision No.:
16

Typkontrollintyg nr.: / Type Inspection Certificate No.:
117448

Datum/Date:
17th November 2021

Kvalitetsmanual / Quality manual

☐ Nej/No

☒ Ja/Yes: MG/01 Edition 7 26/07/2021

Registrerad på Inspecta / Registered on Inspecta

☐ Nej/No

☒ Ja/Yes:

Genomförande / Implementation

MG/01 Edition 7, Divided into section 1-8

General procedures PG-X and PR-X according to Current Document List 18/10/2021

Instructions according to “list of procedures applicable to type inspection certificate” Rev 4
1/12/2020

5. Inköp / Purchasing

Bedömning av underleverantörer / Assessment of sub-contractors

PR-104 Rev 5

Purchases and evaluation of suppliers

Kontraktsgenomgång / Contract review

PR-101 Rev 6

Commercial Management

6. Processtyrning / Process control

Arbetsinstruktioner / Work instructions

Instructions according “list of procedures applicable to type inspection certificate” Rev 4
1/12/2020

Kontroll- och provningsstatus / Inspection and test status

MG/01

Chapter 8

PR-106 Rev 3

Inspection

Behandling av avvikande produkter / Control of nonconforming products

PR-204 Rev 5

Improvement (non conformities, corrective and preventive actions,
internal audits) Non-conformance report Form FPR-204-1

TYPKONTROLLINTYG TYPE INSPECTION CERTIFICATE

Revision nr/Revision No.:
16

Typkontrollintyg nr.: / Type Inspection Certificate No.:
117448

Datum/Date:
17th November 2021

7. Svetsning / Welding

Kvalificering för svetsning / Qualification for welding

Företag / Company

☒ EN ISO 3834-2



Procedurer / Procedure qualification record

☒ SS-EN ISO 15614-1

☒ ASME IX

Svetsarprovning / Welder performance qualifications

☒ SS-EN ISO 9606-1, 9606-5

☒ ASME IX

Svetsprocedurer / Welding procedure specifications

WPS-01-001, rev. 0	WPQR ZA - 709/15/004/PS/16E
WPS-01-002, rev. 0	WPQR ZA - 709/15/004/PS/16E
WPS-03-001, rev. 0	WPQR PQR-1-EN
WPS-03-002, rev. 0	WPQR ZA - 709/15/004/PS/15E
WPS-03-003, rev. 1	WPQR PQR-1-EN
WPS-11-001, rev. 0	WPQR ZA - 709/15/004/PS/16E
WPS-11-002, rev. 0	WPQR ZA - 709/15/004/PS/16E
WPS-11-003, rev. 1	WPQR ZA - 709/15/004/PS/16E
WPS-13-001, rev. 2	WPQR PQR-1-EN
WPS-15-001, rev. 0	WPQR ZA - 709/09/003/PS/04E
WPS-20-002, rev. 1	WPQR ZA - 709/15/004/PS/12E
WPS-20-003, rev. 0	WPQR ZA - 709/15/004/PS/10E
WPS-25-001, rev. 0	WPQR ZA - 709/15/004/PS/14E
WPS-25-002, rev. 0	WPQR ZA - 709/15/004/PS/13E
WPS-28-001, rev. 0	WPQR ZA - 709/13/003/PS/05E
WPS-28-002, rev. 0	WPQR ZA - 709/15/004/PS/08E
WPS-29-001, rev. 0	WPQR ZA - 709/15/004/PS/11E
WPS-29-002, rev. 0	WPQR ZA - 709/15/004/PS/09E

Referens / Reference

Sergio Esco Muñoz, IWS
Santiago Hijazo, IWE

8. Värmebehandling – Formning / Heat treatment – Forming

Tillstånd / Authorization

☐ SS-EN ISO 17663

☐ AD-Merkblatt HP 7/1

Värmebehandlingsprocedurer / Heat treatment specifications

N/A

TYPKONTROLLINTYG TYPE INSPECTION CERTIFICATE

Revision nr/Revision No.:
16

Typkontrollintyg nr.: / Type Inspection Certificate No.:
117448

Datum/Date:
17th November 2021

Formningsprocedurer / Forming specifications

N/A

Referens / Reference

N/A

TYPKONTROLLINTYG TYPE INSPECTION CERTIFICATE

Revision nr/Revision No.:
16

Typkontrollintyg nr.: / Type Inspection Certificate No.:
117448

Datum/Date:
17th November 2021

9. Oförstörande provning / Non destructive testing

OFP-metoder / NDT-methods

Metod/Method Utföres av/Performed by

☐ RT	
☐ MT	
☒ UT	Ringo / S.C.I
☒ PT	Ringo / S.C.I.
☐ ET	
☒ VT	Ringo

Certifieringssystem / Certification system

☒ SNT-TC 1A	☒ EN ISO 9712	☐	☐ CSWIP
☐ COFREND	☐ DGZfp	☐	

OFP-procedurer / NDT-procedure

PT	PTP-10-001, rev. 1	
UT	UTP-10-002, rev. 2	Surface welding*
UT	UTP-10-001, rev. 2	Forging
VT	VTP-10-001, rev. 1	

*Not applicable due to geometry of valves $\leq$ DN50

Referens / Reference

Santiago Hijazo, Level II

10. Utrustning – Kalibrering / Equipment – Calibration

Kontroll-, mät- och provningsutrustning/Inspection, measuring and test equipment

☐ SS-EN ISO 17662 ☐ SS-EN 50504

Utrustning / Equipment

List of calibration/verification in computer.

Kalibrering och underhåll / Calibration and maintenance

PR-203 Rev 3 Infrastructure (Maintenance of Equipment & Installations,
Computer Maintenance, Calibration of Equipment)

Kalibrering utförs av / Calibration performed by

Ringo Valvulas uses Accredited laboratory for calibration of manometers, measuring equipment and UT-equipment.

TYPKONTROLLINTYG TYPE INSPECTION CERTIFICATE

Revision nr/Revision No.:
16

Typkontrollintyg nr.: / Type Inspection Certificate No.:
117448

Datum/Date:
17th November 2021

11. Kvalitetsplan / Quality plan

Kontroll och provning / Inspection and testing

Inspection and Test Plan	Material	Quality Class
ITP-BALL-1, rev. 1	Stainless Steel	2,3 & 4
ITP-BALL-2, rev. 1	Carbon Steel	2,3 & 4
ITP-BALL-3, rev. 0	Stainless Steel	1
ITP-BALL-4, rev. 0	Stainless / Carbon Steel	4
ITP-GLOBE-1, rev. 1	Stainless Steel	2,3 & 4
ITP-GLOBE-2, rev. 3	Carbon Steel	2,3 & 4
ITP-GLOBE-3, rev. 0	Stainless Steel	1
ITP-BELLOW-1, rev. 1	Stainless Steel	2,3 & 4
ITP-BELLOW-2, rev. 1	Carbon Steel	2,3 & 4
ITP-BELLOW-3, rev. 0	Stainless Steel	1
ITP-4742-1, rev. 0	Stainless Steel	4
ITP-CHECK-1, rev. 1	Stainless Steel	2,3 & 4
ITP-CHECK-2, rev. 2	Carbon Steel	2,3 & 4
ITP-CHECK-3, rev. 0	Stainless Steel	1
ITP-GATE-1, rev. 1	Stainless Steel	2,3 & 4
ITP-GATE-2, rev. 1	Carbon Steel	2,3 & 4
ITP-GATE-3, rev. 0	Stainless Steel	1
ITP-YGLOBE-1, rev 1	Carbon Steel	2 - 4
ITP-YGLOBE-2, rev 1	Stainless Steel	2 - 4
ITP-8086-1, rev 0	Carbon Steel	3

Mottagningskontroll / Receiving inspection and testing

MG/01 Chapter 6 and 8
 PR-104 Rev 5 Purchases (Reception)
 PR-106 Rev 3 Inspection (Inspection in Reception)
 IIP-01-001 rev 2 Incoming Inspection Procedure

Referens / Reference

Santiago Hijazo

Kontroll och provning under tillverkning / In-process inspection and testing

MG/01 Chapter 6 and 8
 PR-106 Rev 3 Inspection (Inspection in process)

Slutkontroll / Final inspection

TVP-10-001, rev. 0 Hydraulic and functional test according to KBM
 CLP-01-001, rev. 0 Cleaning of carbon steel and stainless steel valves.
 PCP-01-001, rev. 5 Packing ,shipping, handling and storage procedure
 VTP-10-001, rev. 1 Inspection of surfaces
 TIP-01-001, rev. 4 Identification of valves
 FIP-01-001, rev. 3 Final Inspection

TYPKONTROLLINTYG TYPE INSPECTION CERTIFICATE

Revision nr/Revision No.:
16

Typkontrollintyg nr.: / Type Inspection Certificate No.:
117448

Datum/Date:
17th November 2021

Slutprovning / Final testing

N/A

12. Övrigt / Miscellaneous

Material specifications for stainless steel fulfils requirement in TBM ed. 7 chp. 3.1.1.4 regarding the maximum carbon content of 0.02%.

MPS-10-001, rev. 2	Material procurement specification SS (Forgings SA-182)
MPS-10-002, rev. 2	Material procurement specification SS (Forgings SA-479)

Corrosion protection and Packing

PCP-01-001, rev. 5	Packing ,shipping, handling and storage procedure
CLP-01-001, rev. 0	Cleaning of carbon steel and stainless steel valves.
PPP-10-001, rev. 1	Painting procedure according to TBY

13. Leverans / Delivery

Kvalitetsdokument / Quality records

PR-201 rev 2 Management of the Documented Information
Certificate of compliance 3.1
Traveler, Inspection and testing plan
NDT Certificates

Referens / Reference

María Ángel Gumiel

Märkning och dokumentation / Marking and documentary evidence

Marking:

Marking:

Manufacturer name, Type, Size, Pressure rating, Body material, Disc material, Design temperature, Nuclear quality class, Seismic class, Design pressure, Serial number, Date (year)

Documentation sent together with delivery:

Certificate of compliance to Type Inspection Certificate
Assembly drawing

TYPKONTROLLINTYG TYPE INSPECTION CERTIFICATE

Revision nr/Revision No.:
16

Typkontrollintyg nr.: / Type Inspection Certificate No.:
117448

Datum/Date:
17th November 2021

Bilagor / Appendices

Appendices filed at Kiwa Nuclear AB:
CD with all design information

Documents appended to Type Inspection Certificate:

- Appendix 1 Certificate of compliance
- Appendix 2 List of Drawings
- Appendix 3 Example of PT record

TYPKONTROLLINTYG TYPE INSPECTION CERTIFICATE

Revision nr/Revision No.:
16

Typkontrollintyg nr.: / Type Inspection Certificate No.:
117448

Datum/Date:
17th November 2021

Bilaga 1 / Appendix 1 Certificate of compliance

	<u>CERTI</u> <u>CUMF</u> <u>(COI</u> <u>CER</u> Certificate Nr.:
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Obra (Work Order) nº:	Cliente (Customer):
Equipo (Product):	Ctd (Qty):
Orden de compra (P/O) nº:	

<i>(Ringo Valvulas, S.L. hereby, certifies that): Ringo presente certifica que:</i>	
<i>The goods stated here below have been inspected and tested in accordance with the requirements of the Type Inspection Certificate number 11744 until 2020-12-15 by Kiwa Inspecta Nuclear AB</i>	
Firmado (Signed):	Fecha (Date):

Item	Datos de la válvula (Valve Data)	Nº Serie (Serial Nº)
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TYPKONTROLLINTYG TYPE INSPECTION CERTIFICATE

Revision nr/Revision No.:
16

Typkontrollintyg nr.: / Type Inspection Certificate No.:
117448

Datum/Date:
17th November 2021

Bilaga 2 / Appendix 2 List of drawings

TYPE	DRAWINGS	REV.	MTRL.*	DIMENSIONS DN	RATING
Ball Valves	RV-B2814	4	SS	15/20/25/40/50	PN100
	RV-B2813	4	CS	15/20/25/40/50	PN100
	RV-B5077	10	CS/SS	50	PN16
	RV-B5945	8	SS	8	PN16
	RV-B7104	0	SS	DN20	PN150
	RV-B7107	0	SS	DN50	PN150
	RV-B7109	0	SS	DN25	PN150
Bellow Globe Valves	RV-G1866	4	CS	15/20/25	PN250
	RV-G1867	5	SS	15/20/25	PN250
	RV-G1868	5	CS	40/50	PN250
	RV-G1869	5	SS	40/50	PN250
	RV-G2092	5	CS ¹	20	PN250
	RV-G2063	5	SS	25	PN250
	RV-G1941	4	CS ¹	25	PN250
	RV-G2152	2	SS	15/20/25	PN250
	RV-G2151	2	CS	15/20/25	PN250
	RV-G2154	2	SS	40/50	PN250
	RV-G2153	2	CS	40/50	PN250
	RV-G2519	6	CS	25	PN250
	RV-G3145	4	SS	25	PN250
	RV-G3542 ³	4	CS	25	PN250
	RV-G3542 ³	4	CS	25	PN250
Check Valves	RV-R1164	4	CS	15/20	PN250
	RV-R1163	4	SS	15/20	PN250
	RV-R1162	4	CS	25/40/50	PN250
	RV-R1161	4	SS	25/40/50	PN250
	RV-R2003	0	SS	15	PN250
	RV-R2004	0	CS	15	PN250
	RV-R3419	3	SS	50	PN40
Gate Valves	RV-C1874	3	SS	15/20	PN250
	RV-C1875	2	CS	15/20	PN250
	RV-C1876	3	SS	25	PN250
	RV-C1877	2	CS	25	PN250
	RV-C1878	4	SS	40/50	PN250
	RV-C1879	3	CS	40/50	PN250
	RV-C5188 ⁵	3	SS	40/50	PN250
Globe Valves	RV-G1751	5	SS	15/20	PN250
	RV-G1847	3	CS	15/20	PN250
	RV-G1848	4	SS	40/50	PN250
	RV-G1849	4	CS	40/50	PN250
	RV-G1850	4	SS	25	PN250
	RV-G1851	3	CS	25	PN250
	RV-G1879	6	CS	25	PN250
	RV-G1942	6	CS ¹	50	PN250

TYPKONTROLLINTYG TYPE INSPECTION CERTIFICATE

Revision nr/Revision No.:
16

Typkontrollintyg nr.: / Type Inspection Certificate No.:
117448

Datum/Date:
17th November 2021

	RV-G2093	5	CS ¹	20	PN250
	RV-G2094	4	CS ¹	20	PN250
	RV-G2145	2	SS	15/20	PN250
	RV-G2146 ²	1	CS	15/20	PN250
	RV-G2147	2	SS	40/50	PN250
	RV-G2148	2	CS	40/50	PN250
	RV-G2149	2	SS	25	PN250
	RV-G2150 ²	1	CS	25	PN250
	RV-G3042	2	SS	50	PN250
	RV-G3804	8	SS	50	PN150
	RV-G3919 ⁶	3	CS	25	PN250
	RV-G3920 ⁶	3	SS	25	PN250
	RV-G4168	3	CS	20	PN250
	RV-G4183	3	SS	20	PN250
	RV-G4937 ⁴	6	CS	50	PN150
“Y” Globe Valves	RV-G4292	5	SS	50	PN250
	RV-G4293	3	SS	25/40	PN250
	RV-G4294 ⁶	4	CS	50	PN250
	RV-G3921	5	CS	50	PN250
	RV-G3922	5	SS	50	PN250
	RV-G4209	4	SS	25/40	PN250
	RV-G4536	1	CS	20	PN250
	RV-G4539	1	SS	20	PN250
	RV-G4537	1	CS	25	PN250
	RV-G4538	1	SS	25	PN250

*CS = Carbon Steel

SS = Stainless Steel

¹ SA182 F1 (16Mo3).

² RV-G2146, RV-G2150 are verified for acceleration load 10g in vertical direction and horizontal directions and 7.6 MPa design pressure and 316 °C design temperature.

³ Approval of Valve includes actuator. Verified in calculation report DC-6803-1.

⁴ Valve with Actuator, RV-G4937, verified and approved for 6g acceleration in all directions.

⁵ Valve, RV-C5188, verified and approved for 6g acceleration in all directions.

⁶ Valve, RV-G3919, RV-G3920, RV-G4294 verified and approved for 6g acceleration in all directions.

TYPKONTROLLINTYG TYPE INSPECTION CERTIFICATE

Revision nr/Revision No.:
16

Typkontrollintyg nr.: / Type Inspection Certificate No.:
117448

Datum/Date:
17th November 2021

Bilaga 3 / Appendix 3

Example of PT record



INFORME DE INSPECCION POR LIQUIDO

Penetrant Liquid Test Report

Laboratorio de ensayo acreditado por ENAC con acreditación N° 61
Las actividades marcadas con (*) no están amparadas por la acreditación

INFORME: 190092ENDMAD-OT0001-PT01-REV1 REV. 1
Report
O.T.(S.C.I.): 190092ENDMAD-OT0001

CLIENTE:

Customer

DOMICILIO SOCIAL:

Address

DIRECCION DE REALIZACION DEL ENSAYO:

Testing Place

PEDIDO: UPPER SHAFT ADAPTER FALNGE RUBBING. S/P ENAZ170P0004
P. order DAMPER SHAFT ADAPTER S/P ENAZ170P0005

OBJETO ENSAYADO: UPPER SHAFT ADAPTER FALNGE
Tested Object RUBBING.(1UD.)

PLANO: ENAZ17
Drawing

PROCEDIMIENTO: END-PT-4062 REV/ED: 0.0

CALIF. S/ESPECIFICACI
Specification Calibration

NORMA ENSAYO: UNE-EN ISO 3452-01 2013
Testing norm

FECHA DE ENSAYO:
Test date

EXTENSION EXAMEN: 100%
Control extension

FECHA DE RECEPCION
Reception date

DATOS DE LA PIEZA:

Specimen

(1) ☐ SOLDADURA
Weld

☐ CHAPA
Plate

☒ FUNDICIO
Casting, forging

IDENTIFICACION: UPPER SHAFT ADAPTER FALNGE RUBBING. S/P ENAZ170P0004 (1 UD).
Identification DAMPER SHAFT ADAPTER S/P ENAZ170P0005 (1UD).

ZONA A INSPECCIONAR:

Inspection area

CARAS EXTERNAS E INTERNAS ACCESIBLES

MATERIAL - CALIDAD: (1) F1272
Material - Specification

ESPESOR (mm): (1) 11
Thickness

TRATAMIENTO TERMICO: (1) N/D
Heat Treatment

TIPO DE UNION:
Type of Joint

PROCESO DE SOLDEO: (1) N/A
Welding procedure

ESTADO SUPERFICIAL:
Surface Condition

MEDIOS DE INSPECCION.

Inspection Equipments

TIPO DE ENSAYO:

Type of test

Fluorescentes

	MARCA COMERCIAL Commercial name	CODIGO Code	TIPO Type	
DISOLVENTE Solvent	N/A	N/A	AGUA	N
PENETRANTE Penetrant	CHEMETALL	BRITEMOR 4455	ELIMINABLE CON AGUA	F
REVELADOR Developer	CHEMETALL	LD7	HUMEDO NO ACUOSO	E

ILUMINACION: ☒ NATURAL ☒ ARTIFICIAL ☐ U.V.

Illumination type

CODIGO SCI LAMPAR
Black light code nbr.

APLICACION.

Application

TIEMPO PENETRACION