DEV NUMBER:	ORIGINATOR:	DATE:
DEV25-0109	**Roberto Guzmán**	20-Mar-25

RAIN BIRD

DEVIATION FORM (DRAWING)

FORM#233813-01 REV: R

DMR# (IF APPLICABLE):	DEVIATION TYPE:	NEW ☑ / EXTENSION ☐	OF DEV#:

TOP-LEVEL SKU P/N(S) AND MODEL NUMBER(S):	EFFECTIVITY DATE:	EXPIRATION DATE:
Refer to Where Used in Description	20-Mar-25	22-Jun-25

PROJECT NAME OR NO. (OPTIONAL): Xeri Bubblers

BUSINESS UNIT (SBU and PLANT) W/ PRIMARY DESIGN CONTROL: 025 OTY > > > LND

SHEET: 1 OF 1

AFFECTED MFG PLANTS (WHERE USED):

005 LAM ☐	013S STL ☐	025 OTY ☑	041 NOG ☑
008 BUY ☐	019 AZU ☐	028 TUC ☐	047 TUC ☐
013E EEX ☐	020MX NMD ☑	026 ELG ☐	CHINA ☐

REASON FOR DEVIATION:

Units built with Xeri Bubblers using nozzle P/Ns 177448 and 177449 exhibit leaks that exceed the limits specified in product specification 178487. To address this, the current leakage tolerance will be increased from 3 ml/min to 40 ml/min. Additionally, we will expand the tolerance for P/N 177449 for the dimension shown below, based on a trial that demonstrated acceptable component performance and serves as a basis for process control.

Approval of this deviation will enable the molding supplier to produce parts and help clear the existing backlog and high season demand. It will also provide the engineering team time to complete their investigation and develop a plan to resolve the underlying issues in this product line. It is likely that this deviation will be extended to align with the corrective action plan.

RISK ASSESSMENT/ CORRECTIVE ACTION PLAN (NAMES & DATES)/ COMMITMENT:

Risk assessment: Low risk. According to test of process 9 (shown below), that was selected as nominal at molding process, we have an acceptable performace under this deviation.
Corrective action plan:
- Review component design to standardize features in product family
- Identify differences and have a clear path to update design intent
- Propose design changes
- Test design proposal
- Implement design changes

Resposible for root cause and corrective action: Roberto Guzmán, completion on Q4, 2025.

DRAWING NUMBER:	DRAWING REVISION:	DEVIATION REVISION:	DRAWING TITLE/ PART DESCRIPTION:	VENDOR:
178487	B	B2	Xeri-Bubbler Product Specification	Arimex
177449	C	C1	Stream 360, Micro Spray	RB NOGALES

APPROVALS (ALL REQUIRED):

QUALITY MGR. OR QUALITY ENG.
Indira Aragón

MANUFACTURING ENGINEER
Claudia Anaya

ENGINEERING MANAGER
Xavier Vela / Paul Dibene

BUYER OR BUYER/PLANNER
Amauri Ruiz and Adriana Romero

PLANT MANAGER
Jorge Bórquez

SBU PRODUCT MGR. OR SBU ENG. MGR.
Paul Dailey

OTHER:
César Rodríguez, Juan Mexía

QUALITY DIRECTOR (REQUIRED FOR BACK-TO-BACK DEVIATIONS)

DESCRIPTION OF DEVIATION (IS/WAS CONDITION AND DRAWING ZONE FOR EACH PART NO. OR ATTACH REDLINE PRINTS):

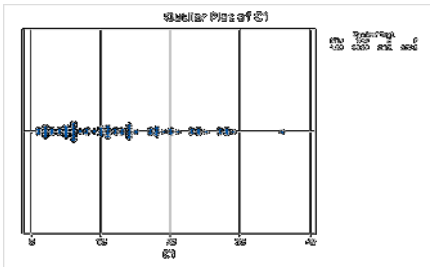
IS: 178487

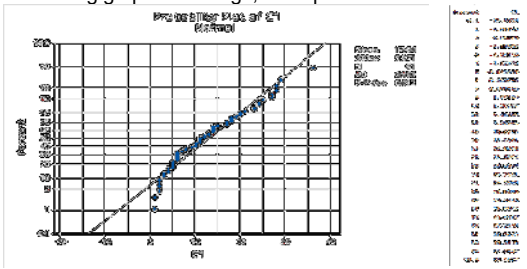
5. Closed position: When the spray head is turned all the way down, the unit should leak no more than 1 drop per second maximum. ~~1 drop per second = 3 ml per minute~~ 13.3 drops 40 ml

WAS: 178487

5. Closed position: When the spray head is turned all the way down, the unit should leak no more than 1 drop per second maximum. 1 drop per second = 3 ml per minute

61 samples of P/N 177449 were made according to Process 9 parameters. Assemblies were built using this samples and tested for leakage at closed position. Results are shown in following graphs. Leakage, in ml per minute.



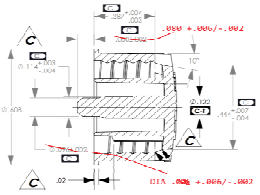


Where Used

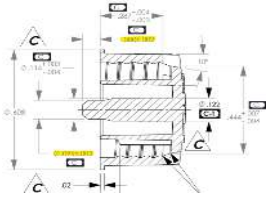
P/N	S/A	SKU	Description
177448	177450	A50793	MICRO-BUBBLER HALF CIRCLE 4PK
177448	177450	A50959	CONVERT KIT 1800 TO 6 MICROBU
177448	177450	A51020	MICRO-BUBBLER HALF CIRCLE 4PK
177448	177450	C06310L	SPOT WATERING DRIP KIT L&G
177448	179221	X64010	SXB-180 XERI-BUBBLER 1032 THD
177448	179225	X64046	SXB-180-025 BUBBLER 1/4 BARB
177448	177450	X64049	SXB 180 SPK BUBBLER WITH SPIKE

P/N	S/A	SKU	Description
177449	177451	A50792	MICRO-BUBBLER FULL CIRCLE 4PK
177449	177451	A51021	MICRO-BUBBLER FULL CIRCLE 4PK
177449	179226	A51058	MICROBUBBLER BARB, FULL 10 PK
177449	177451	A51063	MICRO-BUB FULL CIRCLE 20 PK
177449	179222	A51095	MICROBUBBLER ON STAKE, FULL
177449	179226	A51214	MICROBUBBLER BARB, FULL 10 PK
177449	179226	A51224	MICROBUBBLER BARB, FULL 25 PK
177449	177451	A51230	LANDSCAPE & GARDEN DRIP KIT
177449	179222	X64000	SXB-360 XERI-BUBBLER 1032 THD
177449	179226	X64036	SXB-360-025 BUBBLER 1/4 BARB
177449	177451	X64039	SXB-360 SPYK, BUBBLER 5"SPYK

IS: 177449



WAS: 177449



Digitally signed by Leal, Vanessa NOG 5033
DN: cn=Leal, Vanessa NOG 5033, ou=Engineering, e=vleal@rainbird.com
Reason: I am the author of this document
Location:
Date: 2025-03-21 17:12:07:00

Leal, Vanessa NOG 5033

Guzman, Roberto OTY 4791

From: Guzman, Roberto OTY 4791
Sent: Thursday, March 20, 2025 8:06 PM
To: Aragon, Indira OTY 4360; Anaya, Claudia OTY 4329; Vela, Xavier OTY 4377; Dibene, Paul OTY2 4687; Ruiz, Amauri OTY 4374; Romero, Adriana OTY 4351; Borquez, Jorge OTY 4398; Dailey, Paul SOPT; Rodriguez, Cesar Alberto NOG 5053; Mexia, Juan NOG 5089
Subject: DEV25-0109_IncreaseLeakageAtClosedPosition_178487_XeriBubblers
Attachments: DEV25-0109_IncreaseLeakageAtClosedPosition_178487_XeriBubblers.xlsx

Tracking:

Recipient	Delivery	Read	Response
Aragon, Indira OTY 4360	Delivered: 3/20/2025 8:07 PM	Read: 3/21/2025 8:49 AM	Approve: 3/21/2025 9:07 AM
Anaya, Claudia OTY 4329	Delivered: 3/20/2025 8:07 PM	Read: 3/21/2025 7:28 AM	Approve: 3/21/2025 7:28 AM
Vela, Xavier OTY 4377	Delivered: 3/20/2025 8:07 PM	Read: 3/21/2025 9:34 AM	Approve: 3/21/2025 9:34 AM
Dibene, Paul OTY2 4687	Delivered: 3/20/2025 8:07 PM		
Ruiz, Amauri OTY 4374	Delivered: 3/20/2025 8:07 PM	Read: 3/21/2025 11:09 AM	Approve: 3/21/2025 11:09 AM
Romero, Adriana OTY 4351	Delivered: 3/20/2025 8:07 PM	Read: 3/21/2025 8:18 AM	Approve: 3/21/2025 11:09 AM
Borquez, Jorge OTY 4398	Delivered: 3/20/2025 8:07 PM	Read: 3/21/2025 4:06 PM	Approve: 3/21/2025 4:06 PM
Dailey, Paul SOPT	Delivered: 3/20/2025 8:07 PM		Approve: 3/21/2025 9:19 AM
Rodriguez, Cesar Alberto NOG 5053	Delivered: 3/20/2025 8:07 PM		Approve: 3/21/2025 4:05 PM
Mexia, Juan NOG 5089	Delivered: 3/20/2025 8:07 PM		Approve: 3/21/2025 4:37 PM

Good night, team!

Please, review and approve the attached document at your earliest convenience. Use the voting buttons in the email.

DEV NUMBER:	ORIGINATOR:	DATE:
DEV25-0109	Roberto Guzmán	20-Mar-25

DMR# (IF APPLICABLE):	DEVIATION TYPE:	NEW ☑ EXTENSION ☐	OF DEV#:
		FALSE	

RAIN BIRD

DEVIATION FORM (DRAWING)

FORM#233813-01 REV: R

BUSINESS UNIT (SBU and PLANT) W/ PRIMARY DESIGN CONTRO: 025 OTY > > > LND

SHEET: 1 OF 1

AFFECTED MFG PLANTS (WHERE USED):

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013E EEX ☐	020MX NMD ☑	026 ELG ☐	CHINA ☐

TOP-LEVEL SKU P/N(S) AND MODEL NUMBER(S):	EFFECTIVITY DATE:	EXPIRATION DATE:
Refer to Where Used in Description	20-Mar-25	22-Jun-25

PROJECT NAME OR NO. (OPTIONAL): Xeri Bubblers

REASON FOR DEVIATION:

Units built with Xeri Bubblers using nozzle P/Ns 177448 and 177449 exhibit leaks that exceed the limits specified in product specification 178487. To address this, the current leakage tolerance will be increased from 3 ml/min to 40 ml/min. Additionally, we will expand the tolerance for P/N 177449 for the dimension shown below, based on a trial that demonstrated acceptable component performance and serves as a basis for process control.

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- Implement design changes

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DRAWING NUMBER:	DRAWING REVISION:	DEVIATION REVISION:	DRAWING TITLE/ PART DESCRIPTION:	VENDOR:
178487	B	B2	Xeri-Bubbler Product Specification	Arimex
177449	C	C1	Stream 360, Micro Spray	RB NOGALES

DESCRIPTION OF DEVIATION (IS/WAS CONDITION AND DRAWING ZONE FOR EACH PART NO. OR ATTACH REDLINE PRINTS):

IS: 178487

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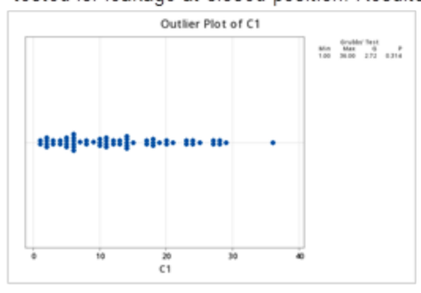
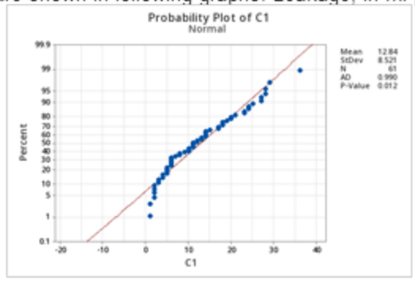
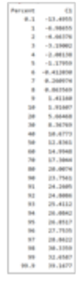
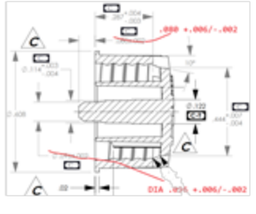


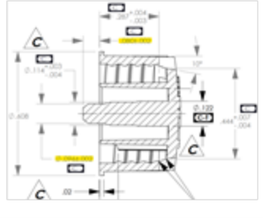




IS: 177449



WAS: 177449



Where Used

P/N	S/A	SKU	Description
177448	177450	AS0793	MICRO BUBBLER HALF CIRCLE 4PK
177448	177450	AS0959	CONVERT KIT 1800 TO 6 MICROBU
177448	177450	AS1020	MICRO BUBBLER HALF CIRCLE 4PK
177448	177450	C06310L	SPOT WATERING DRIP KIT L&G
177448	179221	X64010	SXB 180 XERI BUBBLER 1032 THD
177448	179225	X64046	SXB 180 025 BUBBLER 1/4 BARB
177448	177450	X64049	SXB 180 SPK BUBBLER WITH SPIKE

P/N	S/A	SKU	Description
177449	177451	AS0792	MICRO BUBBLER FULL CIRCLE 4PK
177449	177451	AS1021	MICRO BUBBLER FULL CIRCLE 4PK
177449	179226	AS1058	MICROBUBBLER BARB, FULL 10 PK
177449	177451	AS1063	MICRO BUB FULL CIRCLE 20 PK
177449	179222	AS1095	MICROBUBBLER ON STAKE, FULL
177449	179226	AS1214	MICROBUBBLER BARB, FULL 10 PK
177449	179226	AS1224	MICROBUBBLER BARB, FULL 25 PK
177449	177451	AS1230	LANDSCAPE & GARDEN DRIP KIT
177449	179222	X64000	SXB 360 XERI BUBBLER 1032 THD
177449	179226	X64036	SXB 360 025 BUBBLER 1/4 BARB
177449	177451	X64039	SXB 360 SPYK, BUBBLER 5 "SPYK

APPROVALS (ALL REQUIRED):

QUALITY MGR. OR QUALITY ENG.
Indira Aragón

MANUFACTURING ENGINEER
Claudia Anaya

ENGINEERING MANAGER
Xavier Vela / Paul Dibene

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Jorge Bórquez

SBU PRODUCT MGR. OR SBU ENG. MGR.
Paul Dailey

OTHER:
César Rodríguez, Juan Mexía

QUALITY DIRECTOR (REQUIRED FOR BACK-TO-BACK DEVIATIONS)

24-Hour Rule applies!

If additional information or more time is needed, please, vote “Discuss” to request it.

If you are not the correct Deviation approver, please, vote “Reject” to reassign it.

Regards,

Roberto Guzmán Vega
Sr. Product Engineer
+52 (3) 333 644791
+1 (626) 4283010, X 4791

Ensambles Hyson
Av. Industrial 333
Sección Dorada Parque Industrial Otay
Tijuana, México, 22500