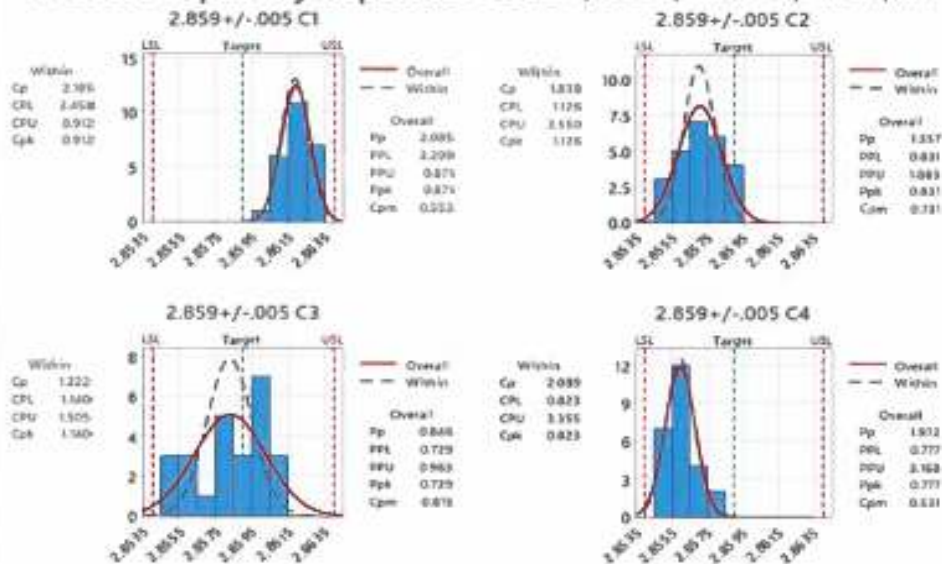




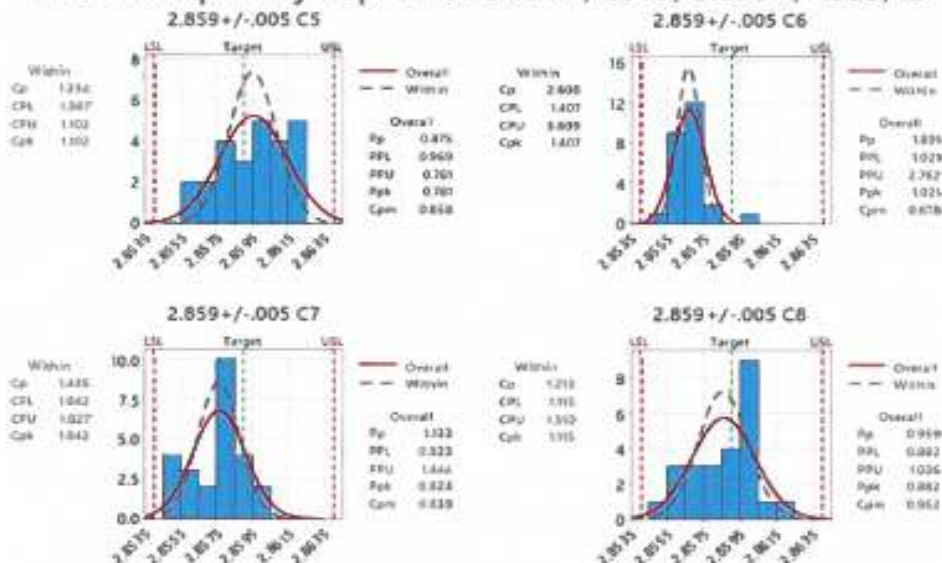
## Process Capability Report for 2.859+/-0.005

### Process Capability Report for 2.859+/-0.005, 2.859+/-0.005, ...



The actual process spread is represented by 6 sigma.

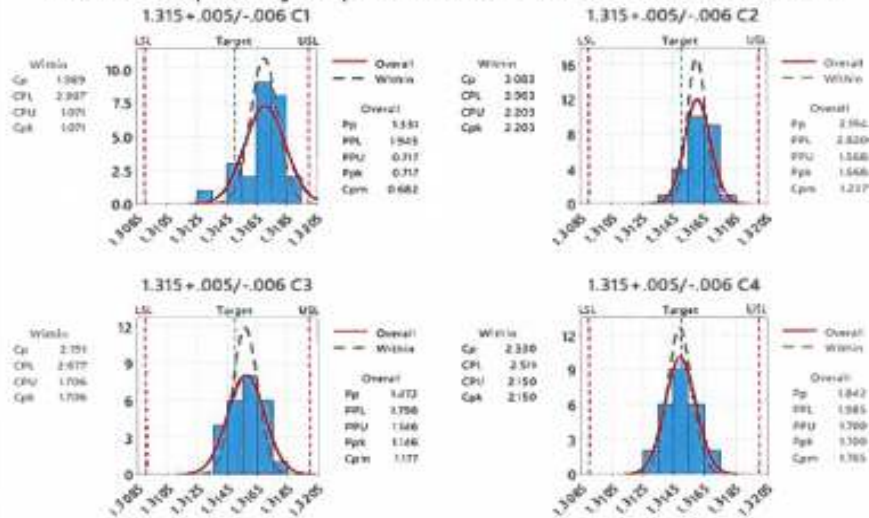
### Process Capability Report for 2.859+/-0.005, 2.859+/-0.005, ...



The actual process spread is represented by 6 sigma.

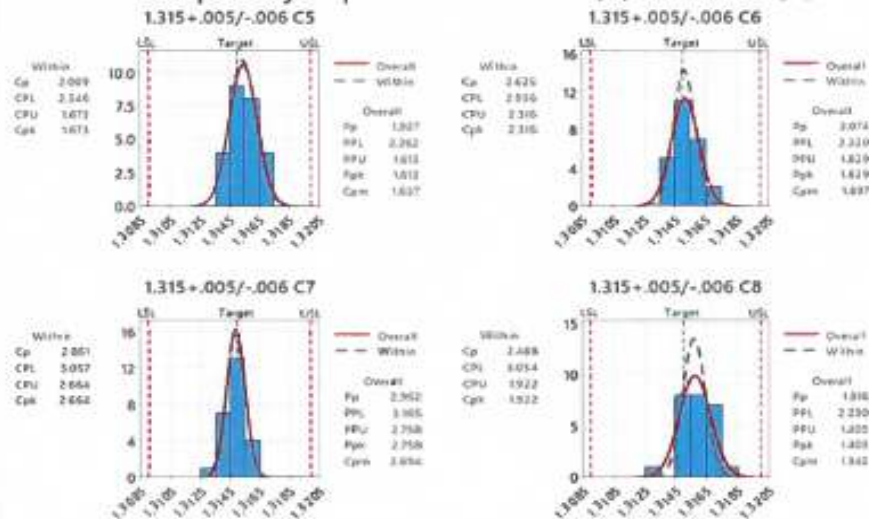
## Process Capability Report for 1.315+ .005/- .006

### Process Capability Report for 1.315+ .005/- , 1.315+ .005/- , ...



The actual process spread is represented by 6 sigma.

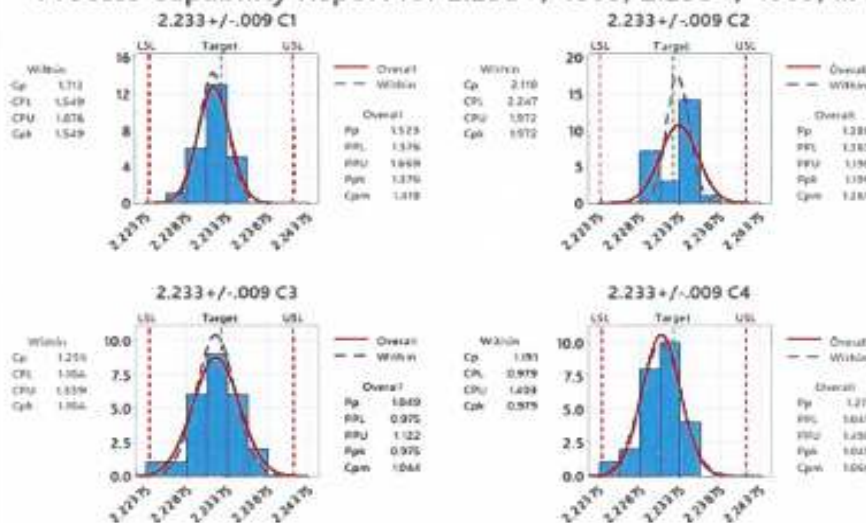
### Process Capability Report for 1.315+ .005/- , 1.315+ .005/- , ...



The actual process spread is represented by 6 sigma.

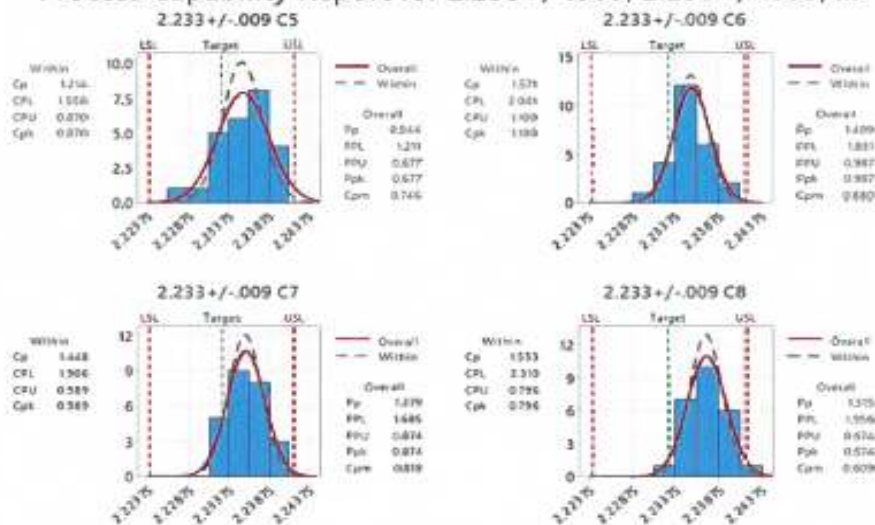
### Process Capability Report for 2.233+/-0.009

#### Process Capability Report for 2.233+/-0.009, 2.233+/-0.009, ...



The actual process spread is represented by 6 sigma.

#### Process Capability Report for 2.233+/-0.009, 2.233+/-0.009, ...

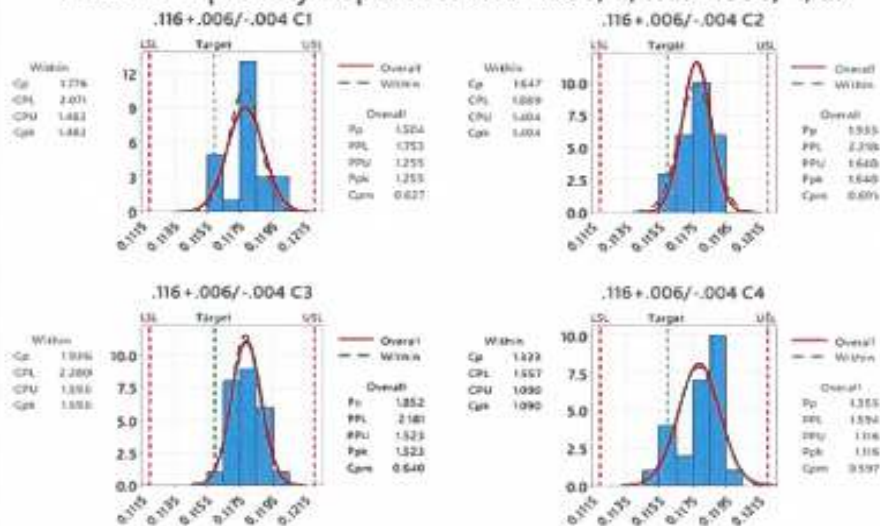


The actual process spread is represented by 6 sigma.



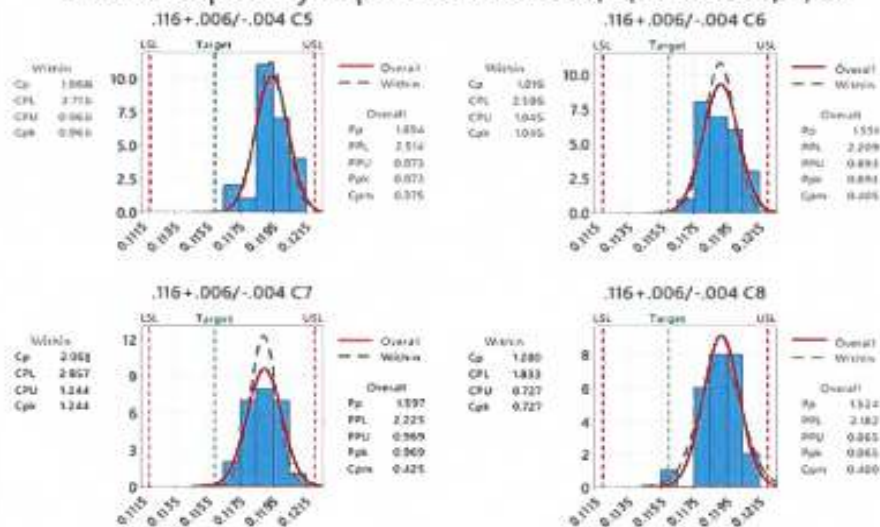
## Process Capability Report for .116+.006/-.004

### Process Capability Report for .116+.006/-, .116+.006/-, ...



The actual process spread is represented by 6 sigma.

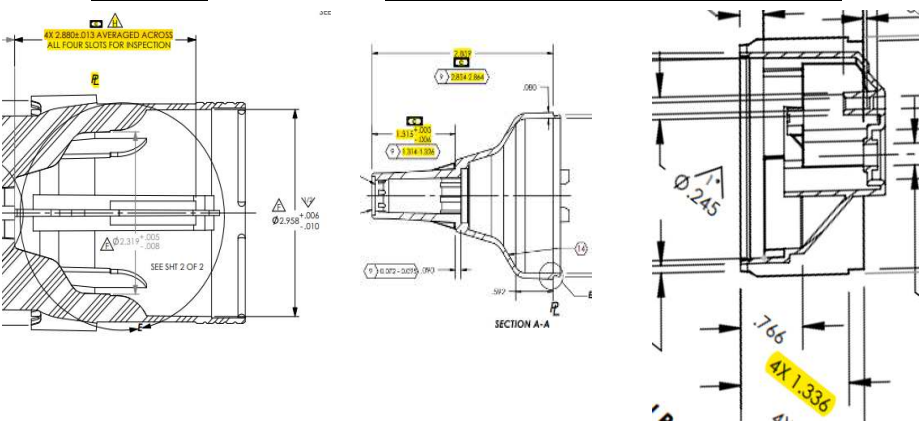
### Process Capability Report for .116+.006/-, .116+.006/-, ...



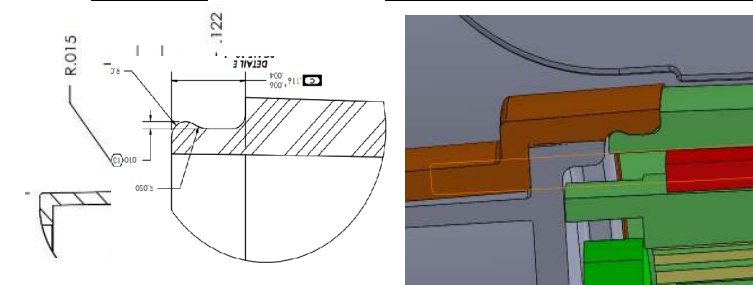
The actual process spread is represented by 6 sigma.

Motor assy 900

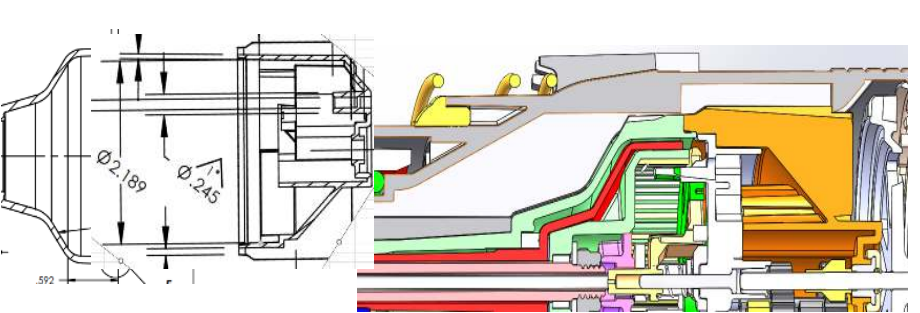
Feature	Nominal	Tol +	Tol -	Design Intent		Proposal	
ng Housing	2.859	2.864	2.854	2.864	2.854	2.8700	2.8480
ng Housing	1.315	0.005	0.006	1.320	1.309	1.3240	1.3080
ing tool life	1.315	0.011	0.001	1.326	1.314		
Using Motor	1.336	0.005	0.005	1.341	1.331	1.341	1.331
	2.880		Motor assy	2.896	2.865	2.903	2.855
8 Riser 952	2.880	0.013	0.013	2.893	2.867	2.8930	2.8670
	0.000			0.029	-0.028	0.036	-0.038
				Interference	Gap	Interference	Gap



Feature	Nominal	Tol +	Tol -	Design Intent		Proposal	
Using Motor	0.122	0.005	0.005	0.127	0.117	0.1270	0.1170
ng Housing	0.116	0.006	0.004	0.122	0.112	0.1240	0.1120
Total Gap/I	-0.006			-0.015	0.005	-0.015	0.007
	Gap			Gap	Interference	Gap	Interference

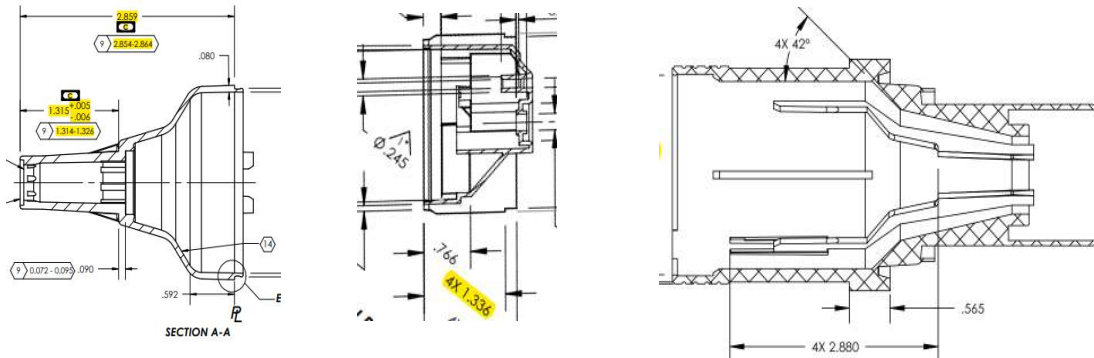


Feature	Nominal	Tol +	Tol -	Design Intent		Proposal	
Using Motor	2.189	0.005	0.005	2.194	2.184	2.1940	2.1840
ng Housing	2.233	0.009	0.009	2.242	2.224	2.2480	2.2180
Total Gap/I	0.044			0.030	0.058	0.064	0.024
	Interference			Interference	Interference	Interference	Interference

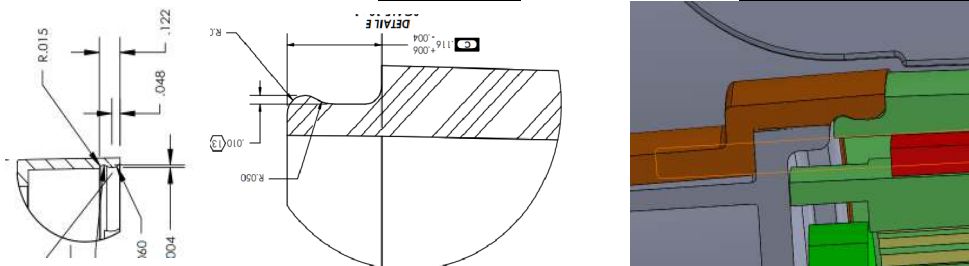


700

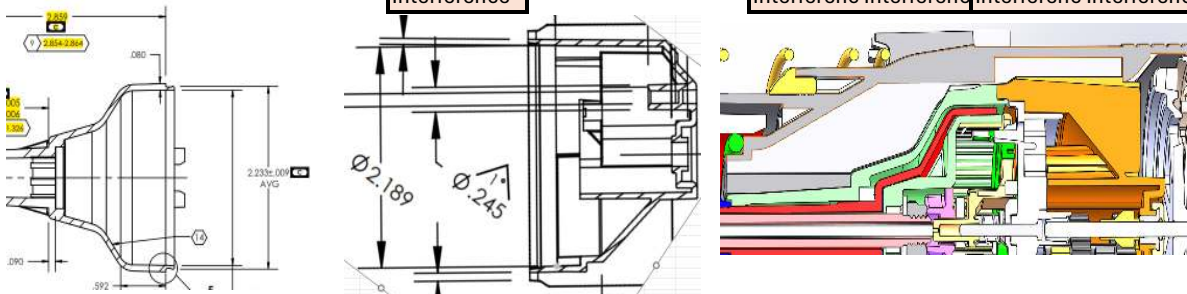
Feature		Nominal	Tol +	Tol -	Design Intent		Proposal	
214930	Bearing Housing	2.859	2.864	2.854	2.864	2.854	2.8700	2.8480
214930	Bearing Housing	1.315	0.005	0.006	1.320	1.309	1.3240	1.3080
214930	Bearing Housing <b>tool life</b>	1.315	0.011	0.001	1.326	1.314		
213126	Housing Motor	1.336	0.005	0.005	1.341	1.331	1.341	1.331
		2.880	Motor assy		2.896	2.865	2.903	2.855
213939 Riser 752		2.880	0.005	0.005	2.885	2.875	2.8850	2.8750
		0.000			0.021	-0.020	0.028	-0.030
					Interference	Gap	Interference	Gap



Feature		Nominal	Tol +	Tol -	Design Intent		Proposal	
213126	Housing Motor	0.122	0.005	0.005	0.127	0.117	0.1270	0.1170
214930	Bearing Housing	0.116	0.006	0.004	0.122	0.112	0.1240	0.1120
Total Gap/Interference					-0.015	0.005	-0.015	0.007
					Gap	Interference	Gap	Interference



Feature		Nominal	Tol +	Tol -	Design Intent		Proposal	
213126	Housing Motor	2.189	0.005	0.005	2.194	2.184	2.1940	2.1840
214930	Bearing Housing	2.233	0.009	0.009	2.242	2.224	2.2480	2.2180
Total Gap/Interference		0.044			0.030	0.058	0.064	0.024
		Interference			Interferenc	Interferenc	Interferenc	Interference



	Deviation 24-0154 5/2/2024	Deviation 24-0184 5/23/2024	Deviation 24-0397 10/23/2024	Repair	Deviation 25-0113 3/26/2025	Proposal	Diference
0.116 +0.006/-0.004		0.116 +0.007/-0.004	0.116 +0.007/-0.004		Low Ppk (0.873)	0.116 +0.008/0.004 Ppk: 1.475	0.001"
2x 0.16 +/-0.015		2x 0.16 +0.016/-0.015	2x 0.162 +0.016/-0.015				
2.233 +/- 0.009		2.233 +/- 0.015	2.233 +/- 0.015		Low Ppk (0.674)	2.233 + 0.016 / -0.015 Ppk: 1.411	0.001"
2.859 +/- 0.005					Low Ppk (0.777)	2.858 +/- 0.011 Ppk: 1.59	0.006"
1.315 +0.005 / -0.006 LOT: 1.314"-1.326"					Low Ppk (0.717) LOT: Ppk (0.310)	1.315" +0.009" / -0.007" Ppk: 1.684	0.005"
Flash?	Flash						



## Castillo, Abdul Ivan OTY 4332

---

**From:** Castillo, Abdul Ivan OTY 4332  
**Sent:** Wednesday, March 26, 2025 12:14 PM  
**To:** Ramos, Arturo OTY2 4313; Casas, Ramiro OTY 4364; Acosta, Guillermo OTY 4319; Dibene, Paul OTY2 4687; Vela, Xavier OTY 4377; Rincon, Diana OTY 4341; Santillan, Oscar OTY 4311; Borquez, Jorge OTY 4398; Tolan, Altan SOPT 6553; Guardado, Javier OTY 4310; Rivero, Jorge ELAG 4342; Rodriguez, Cesar Alberto NOG 5053; Busch, Doug SOPT 6533; Iniguez, Efrain OTY 3810; Olvera, Charles ELAG 1271; Salas, Blanca LAM2 4020  
**Subject:** DEV25-0113 Permit the usage of the low capability (PPK) QAP run of 214930.  
**Attachments:** DEV25-0113 Bearing Housing Run with QAP samples .xls

**Importance:** High

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Tracking:	Recipient	Read	Response
	Ramos, Arturo OTY2 4313	Read: 3/26/2025 5:00 PM	Reject: 3/26/2025 5:11 PM
	Casas, Ramiro OTY 4364	Read: 3/26/2025 1:17 PM	Approve: 3/26/2025 1:18 PM
	Acosta, Guillermo OTY 4319		Approve: 3/26/2025 2:25 PM
	Dibene, Paul OTY2 4687		Approve: 3/26/2025 1:26 PM
	Vela, Xavier OTY 4377	Read: 3/26/2025 1:16 PM	Approve: 3/26/2025 1:16 PM
	Rincon, Diana OTY 4341		Approve: 4/1/2025 11:33 AM
	Santillan, Oscar OTY 4311		Approve: 3/26/2025 1:20 PM
	Borquez, Jorge OTY 4398	Read: 3/26/2025 1:42 PM	Approve: 3/26/2025 1:43 PM
	Tolan, Altan SOPT 6553	Read: 3/26/2025 12:23 PM	Approve: 3/26/2025 12:26 PM
	Guardado, Javier OTY 4310	Read: 3/27/2025 3:15 PM	Approve: 3/27/2025 3:17 PM
	Rivero, Jorge ELAG 4342	Read: 3/26/2025 12:35 PM	Approve: 3/26/2025 12:35 PM
	Rodriguez, Cesar Alberto NOG 5053		Approve: 3/26/2025 12:21 PM
	Busch, Doug SOPT 6533	Read: 3/26/2025 12:57 PM	Approve: 3/26/2025 12:59 PM
	Iniguez, Efrain OTY 3810		Approve: 3/26/2025 12:30 PM
	Olvera, Charles ELAG 1271	Read: 3/26/2025 12:20 PM	Approve: 3/26/2025 12:21 PM
	Salas, Blanca LAM2 4020	Read: 3/26/2025 12:41 PM	

Hello everyone

Review and approve the attached DEV25-0113

Permit the usage of the low capability (PPK) QAP run of 214930. The process capability report on extra sheets shows that the most recent fix only affected cav 5, 6, 7, and 8. With this deviation, 214930 parts with a low capability PPK can be used. Under DEV24-0184 & DEV24-0397, deviations of  $2.233 \pm .009$  &  $.116 \pm .006-.005$  were formerly permitted.

Let me know if you need more information, I'll be happy to provide it.  
24-hour rule is invoked for indicated approvals

## Castillo, Abdul Ivan OTY 4332

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**From:** Salas, Blanca LAM2 4020  
**Sent:** Wednesday, April 2, 2025 3:58 PM  
**To:** Castillo, Abdul Ivan OTY 4332; Ramos, Arturo OTY2 4313; Casas, Ramiro OTY 4364; Acosta, Guillermo OTY 4319; Dibene, Paul OTY2 4687; Vela, Xavier OTY 4377; Rincon, Diana OTY 4341; Santillan, Oscar OTY 4311; Borquez, Jorge OTY 4398; Tolan, Altan SOPT 6553; Guardado, Javier OTY 4310; Rivero, Jorge ELAG 4342; Rodriguez, Cesar Alberto NOG 5053; Busch, Doug SOPT 6533; Iniguez, Efrain OTY 3810; Olvera, Charles ELAG 1271  
**Subject:** RE: DEV25-0113 Permit the usage of the low capability (PPK) QAP run of 214930.

Hello,  
Deviation approved.

Regards,

**Blanca Salas**  
Director of Quality  
(619) 671-4020

---

**From:** Castillo, Abdul Ivan OTY 4332 <AbCastillo@rainbird.com>  
**Sent:** Tuesday, April 1, 2025 11:41 AM  
**To:** Ramos, Arturo OTY2 4313 <arramos@rainbird.com>; Casas, Ramiro OTY 4364 <rcasas@rainbird.com>; Acosta, Guillermo OTY 4319 <gacosta@rainbird.com>; Dibene, Paul OTY2 4687 <PDibene@RainBird.com>; Vela, Xavier OTY 4377 <XVela@rainbird.com>; Rincon, Diana OTY 4341 <drincon@rainbird.com>; Santillan, Oscar OTY 4311 <OSantillan@rainbird.com>; Borquez, Jorge OTY 4398 <jborquez@rainbird.com>; Tolan, Altan SOPT 6553 <atolan@rainbird.com>; Guardado, Javier OTY 4310 <Jguardado@RainBird.com>; Rivero, Jorge ELAG 4342 <JRivero@rainbird.com>; Rodriguez, Cesar Alberto NOG 5053 <CeRodriguez@rainbird.com>; Busch, Doug SOPT 6533 <DBusch@rainbird.com>; Iniguez, Efrain OTY 3810 <Elniguez@rainbird.com>; Olvera, Charles ELAG 1271 <colvera@rainbird.com>; Salas, Blanca LAM2 4020 <bsalas@rainbird.com>  
**Subject:** RE: DEV25-0113 Permit the usage of the low capability (PPK) QAP run of 214930.  
**Importance:** High

Hi Arturo/ Blanca

Deviation has been revised; units have passed the PRC test, and Tolerance Stack up has been added to the XLS file.

Please approve DEV25-0133  
Let me know if you need more information, I'll be happy to provide it.

Greetings

**Abdul I. Castillo**  
Sr. Product Engineer at Ensamblés Hyson  
**US Phone:** 619-661-4332  
**MX Phone:** 664-973-4332

## Castillo, Abdul Ivan OTY 4332

---

**From:** Ramos, Arturo OTY2 4313  
**Sent:** Tuesday, April 1, 2025 3:28 PM  
**To:** Castillo, Abdul Ivan OTY 4332; Casas, Ramiro OTY 4364; Acosta, Guillermo OTY 4319; Dibene, Paul OTY2 4687; Vela, Xavier OTY 4377; Rincon, Diana OTY 4341; Santillan, Oscar OTY 4311; Borquez, Jorge OTY 4398; Tolan, Altan SOPT 6553; Guardado, Javier OTY 4310; Rivero, Jorge ELAG 4342; Rodriguez, Cesar Alberto NOG 5053; Busch, Doug SOPT 6533; Iniguez, Efrain OTY 3810; Olvera, Charles ELAG 1271; Salas, Blanca LAM2 4020  
**Subject:** RE: DEV25-0113 Permit the usage of the low capability (PPK) QAP run of 214930.

Hello Abdul,

Thanks for the follow up, approved.

Arturo

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**From:** Castillo, Abdul Ivan OTY 4332 <AbCastillo@rainbird.com>  
**Sent:** Tuesday, April 1, 2025 11:41 AM  
**To:** Ramos, Arturo OTY2 4313 <arramos@rainbird.com>; Casas, Ramiro OTY 4364 <rcasas@rainbird.com>; Acosta, Guillermo OTY 4319 <gacosta@rainbird.com>; Dibene, Paul OTY2 4687 <PDibene@RainBird.com>; Vela, Xavier OTY 4377 <XVela@rainbird.com>; Rincon, Diana OTY 4341 <drincon@rainbird.com>; Santillan, Oscar OTY 4311 <OSantillan@rainbird.com>; Borquez, Jorge OTY 4398 <jborquez@rainbird.com>; Tolan, Altan SOPT 6553 <atolan@rainbird.com>; Guardado, Javier OTY 4310 <Jguardado@RainBird.com>; Rivero, Jorge ELAG 4342 <JRivero@rainbird.com>; Rodriguez, Cesar Alberto NOG 5053 <CeRodriguez@rainbird.com>; Busch, Doug SOPT 6533 <DBusch@rainbird.com>; Iniguez, Efrain OTY 3810 <EIniguez@rainbird.com>; Olvera, Charles ELAG 1271 <colvera@rainbird.com>; Salas, Blanca LAM2 4020 <bsalas@rainbird.com>  
**Subject:** RE: DEV25-0113 Permit the usage of the low capability (PPK) QAP run of 214930.  
**Importance:** High

Hi Arturo/ Blanca

Deviation has been revised; units have passed the PRC test, and Tolerance Stack up has been added to the XLS file.

Please approve DEV25-0133

Let me know if you need more information, I'll be happy to provide it.

Greetings

### Abdul I. Castillo

Sr. Product Engineer at Ensamblés Hyson

US Phone: 619-661-4332

MX Phone: 664-973-4332

---

**From:** Castillo, Abdul Ivan OTY 4332  
**Sent:** Wednesday, March 26, 2025 12:14 PM  
**To:** Ramos, Arturo OTY2 4313 <[arramos@rainbird.com](mailto:arramos@rainbird.com)>; Casas, Ramiro OTY 4364 <[rcasas@rainbird.com](mailto:rcasas@rainbird.com)>; Acosta, Guillermo OTY 4319 <[gacosta@rainbird.com](mailto:gacosta@rainbird.com)>; Dibene, Paul OTY2 4687 <[PDibene@RainBird.com](mailto:PDibene@RainBird.com)>; Vela, Xavier OTY