



# Inspection Documents for Type 2.1 Coverage:

Python Chemical Injection Pumps

Date: September 8th, 2017

Size: 38 (3/8" Plunger)

Description: PCI-xxx-38x-xx-x

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Graco Inc. certifies that the above product be manufactured by Graco Inc. and tested to meet all applicable Graco engineering/manufacturing/quality standards and specifications.

Graco manufacturing and product development facilities are certified to ISO 9001:2008.

A handwritten signature in black ink that reads 'Sarah J. Bergstrom'.

Sarah J. Bergstrom  
Quality Engineer  
Graco Inc.



# Test Certificate

**Product Family:** Python Chemical Injection Pumps

**Size:** 38 (3/8" Plunger)

**Description Reference:** PCI-xxx-38x-xx-x

Manufacturing Test Frequency: 100%

Test results:

Low pressure startup check:	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
Stall pressure validation:	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
Pump operation at maximum pressure:	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>
External fluid leak check:	Pass <input checked="" type="checkbox"/> Fail <input type="checkbox"/>

Graco Inc. certifies that the above product be manufactured by Graco Inc. and tested to meet all applicable Graco engineering/manufacturing/quality standards and specifications. All information provided herein is intended for Graco use and not intended to be duplicated or replicated.

Graco manufacturing and product development facilities are certified to ISO 9001:2008.

A handwritten signature in black ink that reads 'Sarah J. Bergstrom'.

Sarah J. Bergstrom  
Quality Engineer  
Graco Inc.



# Certificate of Material

Date: September 8, 2017

**Product Family:** Python Chemical Injection Pumps

**Size:** 38 (3/8" Plunger)

**Description Reference:** PCI-xxx-38x-xx-x

<b>Part Number</b>	<b>Wetted Part Description</b>	<b>Material Description</b>
17D661	Cylinder,Fluid,375	316 SST
17H601	Plunger,Fluid,Chromex,375	17-4 SST (Chromex Coated)
17K804	Plunger,Coated,Ceramic,38,Python	17-4 SST (Ceramic Coated)
17D942	Bearing,Plunger,Cip 38,Peek	Peek
17L131	Nut,Packing,Plunger,38,Python	316 SST
17F573	Housing,Needle,Bleed	316 SST
17F572	Needle,Bleed	316 SST
17G005	Housing,Check,Inlet,CI Pump	316 SST
17G006	Housing,Check,Outlet,CI Pump	316 SST
17G130	Piston,Check, CIP	316 SST
17G131	Retainer,Check	316 SST
17G132	Spring,Compression,CIP Outlet	302 SST

Graco Inc. certifies the above product was manufactured and tested to meet all applicable Graco Engineering/Manufacturing/Quality Standards and Specifications.

Graco manufacturing and product development facilities are certified to ISO 9001:2008.

A handwritten signature in black ink that reads 'Bradley A. Byron'.

Bradley A. Byron  
Quality Manager  
Graco Inc.



Graco, Inc.  
88 11th Avenue NE  
Minneapolis, MN 55413 USA

### Certificate of Verification

XL3-89733

Reading No 912  
Mode General Metals  
Time 2017-09-08 12:34  
Duration 28.13  
Units %  
Sigma Value 2  
Sequence Final  
Alloy1 SS-316 : 0.00  
Alloy2 No Match : \*5.01  
Flags  
SAMPLE 17D661  
HEAT  
LOT  
BATCH  
MISC  
NOTE



	%	±	Error
Sb	0	:	N/A
Sn	0.012	±	0.004
Cd	0	:	N/A
Pd	0	:	N/A
Ag	0	:	N/A
Ru	0	:	N/A
Mo	2.063	±	0.009
Nb	0.044	±	0.002
Zr	0	:	N/A
Bi	0	:	N/A
Pb	0	:	N/A
Se	0	:	N/A
Au	0	:	N/A
W	0.075	±	0.014
Zn	0	:	N/A
Cu	0.449	±	0.022
Ni	10.695	±	0.071
Co	0.317	±	0.052
Fe	68.069	±	0.095
Mn	1.404	±	0.042
Cr	16.702	±	0.052
V	0.132	±	0.015
Ti	0	:	N/A
Al	0	:	N/A

Supervised By: Sarah Bugstrom





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### Certificate of Verification

XL3-89733

Reading No 888  
Mode General Metals  
Time 2017-09-08 11:58  
Duration 24.04  
Units %  
Sigma Value 2  
Sequence Final  
Alloy1 SS-316 : 0.00  
Alloy2 No Match : \*3.18  
Flags  
SAMPLE 17F573  
HEAT  
LOT  
BATCH  
MISC  
NOTE



	%	±	Error
Sb	0	:	N/A
Sn	0.019	±	0.004
Cd	0	:	N/A
Pd	0	:	N/A
Ag	0	:	N/A
Ru	0	:	N/A
Mo	2.080	±	0.010
Nb	0.005	±	0.001
Zr	0	:	N/A
Bi	0	:	N/A
Pb	0	:	N/A
Se	0	:	N/A
Au	0	:	N/A
W	0.027	±	0.012
Zn	0	:	N/A
Cu	0.384	±	0.021
Ni	10.235	±	0.070
Co	0.200	±	0.052
Fe	68.040	±	0.095
Mn	1.788	±	0.044
Cr	17.117	±	0.052
V	0.069	±	0.014
Ti	0	:	N/A
Al	0	:	N/A

Supervised By: \_\_\_\_\_

*Sarah Bugstrom*



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### Certificate of Verification

XL3-89733

Reading No 891  
 Mode General Metals  
 Time 2017-09-08 12:03  
 Duration 24.26  
 Units %  
 Sigma Value 2  
 Sequence Final  
 Alloy1 SS-316 : 0.00  
 Alloy2 No Match : \*5.27  
 Flags  
 SAMPLE 17G005  
 HEAT  
 LOT  
 BATCH  
 MISC  
 NOTE



	%	±	Error
Sb	0	:	N/A
Sn	0	:	N/A
Cd	0	:	N/A
Pd	0	:	N/A
Ag	0	:	N/A
Ru	0	:	N/A
Mo	2.091	±	0.010
Nb	0.025	±	0.001
Zr	0	:	N/A
Bi	0	:	N/A
Pb	0	:	N/A
Se	0	:	N/A
Au	0	:	N/A
W	0	:	N/A
Zn	0	:	N/A
Cu	0.857	±	0.027
Ni	11.192	±	0.076
Co	0.291	±	0.054
Fe	66.584	±	0.100
Mn	1.760	±	0.046
Cr	16.961	±	0.055
V	0.151	±	0.017
Ti	0.043	±	0.019
Al	0	:	N/A

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### Certificate of Verification

XL3-89733

Reading No 893  
 Mode General Metals  
 Time 2017-09-08 12:05  
 Duration 24.24  
 Units %  
 Sigma Value 2  
 Sequence Final  
 Alloy1 SS-316 : 0.00  
 Alloy2 No Match : \*5.29  
 Flags  
 SAMPLE 17G006  
 HEAT  
 LOT  
 BATCH  
 MISC  
 NOTE



	%	±	Error
Sb	0	:	N/A
Sn	0.011	±	0.004
Cd	0	:	N/A
Pd	0	:	N/A
Ag	0	:	N/A
Ru	0	:	N/A
Mo	2.085	±	0.010
Nb	0.026	±	0.001
Zr	0	:	N/A
Bi	0	:	N/A
Pb	0	:	N/A
Se	0	:	N/A
Au	0	:	N/A
W	0.033	±	0.013
Zn	0	:	N/A
Cu	0.856	±	0.026
Ni	11.199	±	0.074
Co	0.267	±	0.053
Fe	66.607	±	0.097
Mn	1.751	±	0.044
Cr	16.956	±	0.053
V	0.175	±	0.017
Ti	0	:	N/A
Al	0	:	N/A

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### Certificate of Verification

XL3-89733

Reading No 896  
Mode General Metals  
Time 2017-09-08 12:09  
Duration 30.71  
Units %  
Sigma Value 2  
Sequence Final  
Alloy1 SS-316 : 0.00  
Alloy2 No Match : \*5.18  
Flags  
SAMPLE 17G130  
HEAT  
LOT  
BATCH  
MISC  
NOTE



	%	±	Error
Sb	0	:	N/A
Sn	0.010	±	0.003
Cd	0	:	N/A
Pd	0	:	N/A
Ag	0	:	N/A
Ru	0	:	N/A
Mo	2.024	±	0.009
Nb	0.058	±	0.002
Zr	0	:	N/A
Bi	0	:	N/A
Pb	0	:	N/A
Se	0	:	N/A
Au	0	:	N/A
W	0.065	±	0.012
Zn	0	:	N/A
Cu	0.288	±	0.019
Ni	10.746	±	0.066
Co	0.262	±	0.048
Fe	68.490	±	0.088
Mn	1.333	±	0.039
Cr	16.556	±	0.048
V	0.119	±	0.014
Ti	0.033	±	0.016
Al	0	:	N/A

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*Sarah Bugstam*



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### Certificate of Verification

XL3-89733

Reading No 900  
Mode General Metals  
Time 2017-09-08 12:13  
Duration 25.84  
Units %  
Sigma Value 2  
Sequence Final  
Alloy1 SS-316 : 0.00  
Alloy2 No Match : \*4.96  
Flags  
SAMPLE 17G131  
HEAT  
LOT  
BATCH  
MISC  
NOTE



	%	±	Error
Sb	0	:	N/A
Sn	0.014	±	0.004
Cd	0	:	N/A
Pd	0	:	N/A
Ag	0	:	N/A
Ru	0	:	N/A
Mo	1.983	±	0.010
Nb	0.058	±	0.002
Zr	0	:	N/A
Bi	0	:	N/A
Pb	0	:	N/A
Se	0	:	N/A
Au	0	:	N/A
W	0.065	±	0.014
Zn	0.011	±	0.005
Cu	0.295	±	0.021
Ni	10.788	±	0.074
Co	0.305	±	0.054
Fe	68.454	±	0.098
Mn	1.302	±	0.043
Cr	16.546	±	0.053
V	0.132	±	0.016
Ti	0	:	N/A
Al	0	:	N/A

Supervised By: \_\_\_\_\_

*Sarah Bugstrom*



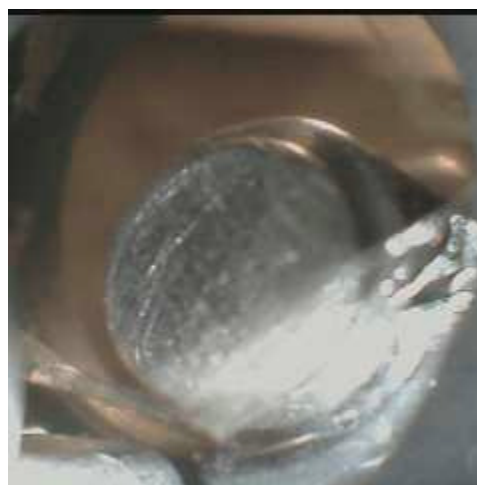


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### Certificate of Verification

XL3-89733

Reading No 876  
 Mode General Metals  
 Time 2017-09-08 11:42  
 Duration 4.80  
 Units %  
 Sigma Value 2  
 Sequence Final  
 Alloy1 17-4 PH : \*1.77  
 Alloy2 15-5 PH : \*2.20  
 Flags  
 SAMPLE 17H601  
 HEAT  
 LOT  
 BATCH  
 MISC  
 NOTE



	%	±	Error
Sb	0	:	N/A
Sn	0	:	N/A
Cd	0	:	N/A
Pd	0	:	N/A
Ag	0	:	N/A
Ru	0	:	N/A
Mo	0.069	±	0.005
Nb	0.240	±	0.010
Zr	0	:	N/A
Bi	0	:	N/A
Pb	0	:	N/A
Se	0	:	N/A
Au	0	:	N/A
W	0	:	N/A
Zn	0	:	N/A
Cu	3.001	±	0.112
Ni	*4.450	±	0.155
Co	0	:	N/A
Fe	76.397	±	0.308
Mn	0.496	±	0.112
Cr	15.226	±	0.149
V	0.105	±	0.041
Ti	0	:	N/A
Al	0	:	N/A

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### Certificate of Verification

XL3-89733

Reading No 844  
Mode General Metals  
Time 2017-09-08 10:40  
Duration 14.58  
Units %  
Sigma Value 2  
Sequence Final  
Alloy1 17-4 PH : \*3.88  
Alloy2 No Match : \*4.54  
Flags  
SAMPLE 17K804  
HEAT  
LOT  
BATCH  
MISC  
NOTE



	%	±	Error
Sb	0.011	±	0.005
Sn	0.017	±	0.005
Cd	0.008	±	0.004
Pd	0.010	±	0.004
Ag	0	:	N/A
Ru	0	:	N/A
Mo	0.167	±	0.004
Nb	0.221	±	0.004
Zr	0	:	N/A
Bi	0	:	N/A
Pb	0	:	N/A
Se	0	:	N/A
Au	0	:	N/A
W	0	:	N/A
Zn	0.018	±	0.009
Cu	*2.173	±	0.046
Ni	*4.191	±	0.071
Co	0	:	N/A
Fe	75.646	±	0.133
Mn	0.413	±	0.054
Cr	16.859	±	0.073
V	0.109	±	0.020
Ti	0.054	±	0.023
Al	0	:	N/A

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*Sarah Bugstrom*



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### Certificate of Verification

XL3-89733

Reading No 920  
Mode General Metals  
Time 2017-09-08 12:44  
Duration 25.72  
Units %  
Sigma Value 2  
Sequence Final  
Alloy1 SS-316 : 0.00  
Alloy2 No Match : \*4.65  
Flags  
SAMPLE 17L131  
HEAT  
LOT  
BATCH  
MISC  
NOTE



	%	±	Error
Sb	0	:	N/A
Sn	0.019	±	0.004
Cd	0	:	N/A
Pd	0	:	N/A
Ag	0	:	N/A
Ru	0	:	N/A
Mo	2.032	±	0.010
Nb	0.024	±	0.002
Zr	0	:	N/A
Bi	0	:	N/A
Pb	0	:	N/A
Se	0	:	N/A
Au	0	:	N/A
W	0.043	±	0.014
Zn	0	:	N/A
Cu	0.280	±	0.022
Ni	10.746	±	0.078
Co	0.255	±	0.056
Fe	68.216	±	0.103
Mn	1.389	±	0.046
Cr	16.822	±	0.056
V	0.127	±	0.017
Ti	0.042	±	0.019
Al	0	:	N/A

Supervised By: \_\_\_\_\_

*Sarah Bugstrom*