



# Inspection Documents for Type 2.1 Coverage:

Python XL Chemical Injection Pumps

Date: September 8th, 2017

Size: 38 (3/8" Plunger)

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

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Graco XRF Material Verification(s)

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.



# Certificate of Material

Date: September 8, 2017

**Product Family:** Python XL 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
17L130	Plunger,Fluid,CRN,38,Python XI	17-4 SST (Chromex Coated)
17L346	Plunger,Coated,Ceramic,38,PXL	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  
Telephone: 612.623.6000 Fax: 612.623.6273



# Test Certificate

**Product Family:** Python XL 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  Fail

Stall pressure validation: Pass  Fail

Pump operation at maximum pressure: Pass  Fail

External fluid leak check: Pass  Fail

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.



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 889  
Mode General Metals  
Time 2017-09-08 12:00  
Duration 25.64  
Units %  
Sigma Value 2  
Sequence Final  
Alloy1 SS-316 : 0.00  
Alloy2 No Match : \*4.84  
Flags  
SAMPLE 17F572  
HEAT  
LOT  
BATCH  
MISC  
NOTE



	%	±	Error
Sb	0	:	N/A
Sn	0.017	±	0.003
Cd	0	:	N/A
Pd	0	:	N/A
Ag	0	:	N/A
Ru	0	:	N/A
Mo	2.034	±	0.009
Nb	0.031	±	0.001
Zr	0	:	N/A
Bi	0	:	N/A
Pb	0	:	N/A
Se	0	:	N/A
Au	0	:	N/A
W	0.079	±	0.013
Zn	0	:	N/A
Cu	0.331	±	0.020
Ni	10.646	±	0.069
Co	0.162	±	0.050
Fe	68.169	±	0.093
Mn	1.497	±	0.041
Cr	16.820	±	0.050
V	0.149	±	0.015
Ti	0.050	±	0.017
Al	0	:	N/A

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*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

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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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### 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

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*Sarah Bugstrom*



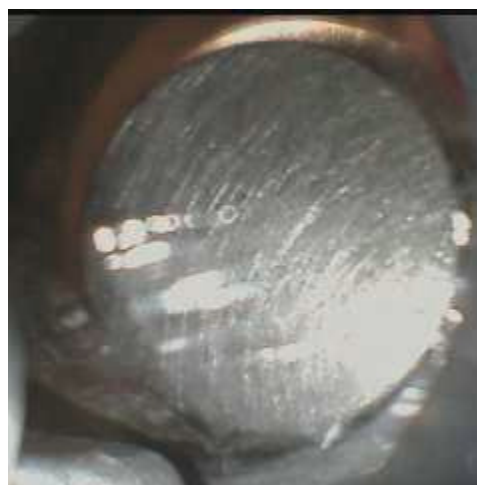


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### Certificate of Verification

XL3-89733

Reading No 887  
Mode General Metals  
Time 2017-09-08 11:56  
Duration 11.26  
Units %  
Sigma Value 2  
Sequence Final  
Alloy1 17-4 PH : \*3.38  
Alloy2  
Flags  
SAMPLE 17L130  
HEAT  
LOT  
BATCH  
MISC  
NOTE



	%	±	Error
Sb	0	:	N/A
Sn	0.011	±	0.005
Cd	0	:	N/A
Pd	0	:	N/A
Ag	0	:	N/A
Ru	0	:	N/A
Mo	0.073	±	0.003
Nb	0.250	±	0.005
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	2.773	±	0.055
Ni	4.364	±	0.078
Co	0	:	N/A
Fe	76.505	±	0.153
Mn	0.569	±	0.057
Cr	*15.293	±	0.075
V	0.107	±	0.021
Ti	0	:	N/A
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

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*Sarah Bugstrom*



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88 11th Avenue NE  
Minneapolis, MN 55413 USA

### Certificate of Verification

XL3-89733

Reading No 817  
Mode General Metals  
Time 2017-09-08 09:50  
Duration 23.80  
Units %  
Sigma Value 2  
Sequence Final  
Alloy1 17-4 PH : \*2.58  
Alloy2 No Match : \*3.18  
Flags  
SAMPLE 17L346  
HEAT  
LOT  
BATCH  
MISC  
NOTE



	%	±	Error
Sb	0	:	N/A
Sn	0.022	±	0.004
Cd	0	:	N/A
Pd	0	:	N/A
Ag	0	:	N/A
Ru	0	:	N/A
Mo	0.227	±	0.004
Nb	0.211	±	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	:	N/A
Cu	3.245	±	0.046
Ni	*4.383	±	0.062
Co	0.154	±	0.061
Fe	75.383	±	0.115
Mn	0.866	±	0.047
Cr	15.287	±	0.060
V	0.107	±	0.017
Ti	0.108	±	0.021
Al	0	:	N/A

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

*Sarah Bugstam*