



# Inspection Documents for Type 2.1 Coverage:

Python XL Chemical Injection Pumps

Date: September 8th, 2017

Size: 63 (5/8" Plunger)

Description: PCI-xxx-63x-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.



# Test Certificate

**Product Family:** Python XL Chemical Injection Pumps

**Size:** 63 (5/8" Plunger)

**Description Reference:** PCI-xxx-63x-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 Bergstrom'.

Sarah J. Bergstrom

Quality Engineer

Graco Inc.



# Certificate of Material

Date: September 8, 2017

**Product Family:** Python XL Chemical Injection Pumps

**Size:** 63 (5/8" Plunger)

**Description Reference:** PCI-xxx-63x-xx-x

<b>Part Number</b>	<b>Wetted Part Description</b>	<b>Material Description</b>
17G513	Cylinder,Fluid,625	316 SST
17L136	Plunger,Fluid,CRN,63,Python XI	17-4 SST (Chromex Coated)
17L348	Plunger,Coated,Ceramic,63,PXL	17-4 SST (Ceramic Coated)
17G112	Bearing,Plunger,CIP 63,Peek	Peek
17L139	Nut,Packing,Plunger,Large	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.

Bradley A. Byron  
Quality Manager  
Graco Inc.



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

### 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

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

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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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### Certificate of Verification

XL3-89733

Reading No 903  
Mode General Metals  
Time 2017-09-08 12:17  
Duration 28.45  
Units %  
Sigma Value 2  
Sequence Final  
Alloy1 SS-302 : 0.08 No  
Alloy2 Match : \*1.84  
Flags  
SAMPLE 17G132  
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	0.128	±	0.013
Nb	0	:	N/A
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	0.221	±	0.108
Ni	8.377	±	0.384
Co	0	:	N/A
Fe	71.622	±	0.907
Mn	1.235	±	0.219
Cr	18.102	±	0.286
V	0	:	N/A
Ti	0	:	N/A
Al	0	:	N/A
S	0	:	N/A
P	0	:	N/A
Si	0	:	N/A
Mg	0	:	N/A

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### Certificate of Verification

XL3-89733

Reading No 913  
Mode General Metals  
Time 2017-09-08 12:35  
Duration 30.74  
Units %  
Sigma Value 2  
Sequence Final  
Alloy1 SS-316 : 0.00  
Alloy2 No Match : \*3.89  
Flags  
SAMPLE 17G513  
HEAT  
LOT  
BATCH  
MISC  
NOTE



	%	±	Error
Sb	0	:	N/A
Sn	0.014	±	0.003
Cd	0	:	N/A
Pd	0	:	N/A
Ag	0	:	N/A
Ru	0	:	N/A
Mo	2.022	±	0.009
Nb	0.010	±	0.001
Zr	0	:	N/A
Bi	0	:	N/A
Pb	0	:	N/A
Se	0	:	N/A
Au	0	:	N/A
W	0.067	±	0.012
Zn	0	:	N/A
Cu	0.456	±	0.020
Ni	10.644	±	0.065
Co	0.257	±	0.047
Fe	68.001	±	0.087
Mn	1.323	±	0.038
Cr	17.095	±	0.048
V	0.101	±	0.013
Ti	0	:	N/A
Al	0	:	N/A

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### Certificate of Verification

XL3-89733

Reading No 822  
 Mode General Metals  
 Time 2017-09-08 10:04  
 Duration 18.25  
 Units %  
 Sigma Value 2  
 Sequence Final  
 Alloy1 17-4 PH : \*3.18  
 Alloy2 15-5 PH : \*3.47  
 Flags  
 SAMPLE 17L136  
 HEAT  
 LOT  
 BATCH  
 MISC  
 NOTE



	%	±	Error
Sb	0	:	N/A
Sn	0.012	±	0.005
Cd	0	:	N/A
Pd	0.011	±	0.004
Ag	0	:	N/A
Ru	0	:	N/A
Mo	0.092	±	0.007
Nb	0.214	±	0.014
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	*2.149	±	0.137
Ni	4.214	±	0.259
Co	0	:	N/A
Fe	76.261	±	2.419
Mn	0.614	±	0.064
Cr	15.262	±	0.091
V	0.103	±	0.012
Ti	0	:	N/A
Al	0	:	N/A
S	0	:	N/A
P	0	:	N/A
Si	0.972	±	0.445
Mg	0	:	N/A

Supervised By:                                 *Sarah Bugstam*



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88 11th Avenue NE  
Minneapolis, MN 55413 USA

### Certificate of Verification

XL3-89733

Reading No 919  
Mode General Metals  
Time 2017-09-08 12:43  
Duration 28.74  
Units %  
Sigma Value 2  
Sequence Final  
Alloy1 SS-316 : 0.00  
Alloy2 No Match : \*3.88  
Flags  
SAMPLE 17L139  
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	2.047	±	0.009
Nb	0	:	N/A
Zr	0	:	N/A
Bi	0	:	N/A
Pb	0	:	N/A
Se	0	:	N/A
Au	0	:	N/A
W	0.022	±	0.011
Zn	0	:	N/A
Cu	0.218	±	0.018
Ni	10.640	±	0.067
Co	0	:	N/A
Fe	67.951	±	0.090
Mn	1.659	±	0.041
Cr	17.269	±	0.049
V	0.086	±	0.014
Ti	0.038	±	0.016
Al	0	:	N/A

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### Certificate of Verification

XL3-89733

Reading No 800  
Mode General Metals  
Time 2017-09-08 09:24  
Duration 26.16  
Units %  
Sigma Value 2  
Sequence Final  
Alloy1 17-4 PH : \*2.57  
Alloy2 15-5 PH : \*2.57  
Flags  
SAMPLE 17L348  
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	0.094	±	0.003
Nb	0.229	±	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	0.038	±	0.012
Cu	3.166	±	0.058
Ni	*4.512	±	0.079
Co	0	:	N/A
Fe	75.849	±	0.156
Mn	0.710	±	0.057
Cr	15.145	±	0.074
V	0.093	±	0.021
Ti	0.137	±	0.028
Al	0	:	N/A

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

*Sarah Bugstrom*