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**Affected Publication:** API Specification 11AX, *Specification for Subsurface Sucker Rod Pump Assemblies, Components, and Fittings*, 13th Edition, May 2015

## Errata 1

*Section 1: The Scope shall be updated to the following:*

This specification provides the requirements and guidelines for the design of subsurface sucker rod pumps and their components as defined herein for use in the sucker rod lift method for the petroleum and natural gas industry.

This specification covers subsurface sucker rod pump assemblies (including insert and tubing), components, and fittings, in commonly used bore sizes for the sucker rod lift method. Sufficient dimensional and material requirements are provided to assure interchangeability and standardization of all component parts.

This specification does not cover specialty subsurface sucker rod pump accessories or special design components. Installation, operation, and maintenance of these products are not included in this specification; however, recommendations can be found in API 11AR.

*Table C.28: The following NOTE shall be added to the table:*

NOTE 2 Components with F32 thread start with G11-, and those with F42 threads start with G11A.

*Table C.29: The table shall be updated as indicated by the red boxes:*

(1)	(2)	(3)	(4)	(5)
Dimensional Symbol	Part Number			
	N11-15	N11-20	N11-25	N11-30
Tubing thread <sup>a</sup>	1.900-10IJ <sup>b</sup>	2 <sup>3</sup> / <sub>8</sub> -8EU	2 <sup>7</sup> / <sub>8</sub> -8EU	3 <sup>1</sup> / <sub>2</sub> -8EU
ID +0.010/–0.000 (+0.25/–0.00)	1.460 (37.08)	1.780 (45.21)	2.280 (57.91)	2.780 (70.61)
<span style="border: 1px solid red;">L<sub>PL</sub> ±0.125 (3.18)</span>	6.00 (152.4), 12.00 (304.8), 18.00 (457.2), 24.00 (609.6)			
OD +0.062/–0.015 (+1.57/–0.38)	<span style="border: 1px solid red;">2.094 <sup>c</sup></span> (53.19)	2.594 (65.89)	3.094 (78.59)	3.750 (95.25)
NOTE All dimensions in inches (followed by equivalent in millimeters).				
<sup>a</sup> See API 5B for tubing thread details.				
<sup>b</sup> Upper connection may be 1.900-10IJ (48.3-10IJ) box thread, thus eliminating need for C34-15 coupling.				
<sup>c</sup> Thread major diameter shall be extended to allow clearance of C34 coupling counterbore.				

Table C.37: The table shall be updated as indicated by the red box:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Dimensional Symbol	Part Number								
	P21-106 P21A106	P21-125 P21A125	P21-150 P21A150	P21-175 P21A175	P21-200 P21A200	P21-225 P21A225	P21-250 P21A250	P21-275 P21A275	P21-375 P21A375
F1, F1A	0.8750-14	1.000-14	1.2500-14	1.4704-14	1.5604-14	1.8024-14	2.1095-11 <sup>1</sup> / <sub>2</sub>	2.1095-11 <sup>1</sup> / <sub>2</sub>	3.1715-11 <sup>1</sup> / <sub>2</sub>

Table C.37: The following NOTE shall be added to the table:

NOTE 4 Components with F1 thread start with P21-, and those with F1A threads start with P21A.

Table C.38: The following NOTE shall be added to the table:

NOTE 4 Components with F1 thread start with P22-, and those with F1A threads start with P22A.

Table C.40: The following NOTE shall be added to the table:

NOTE 3 Components without wrench flats start with P24-, and those with wrench flats start with P24A.

Table C.43: The table shall be updated as indicated by the red boxes:

(1)		(2)		(3)		(4)		(5)	
Nominal Barrel Length <sup>a</sup> Minus Nominal Plunger Length		For Pumps Run in 1.900, 2 <sup>3</sup> / <sub>8</sub> , and 2 <sup>7</sup> / <sub>8</sub> in. (48.3, 60.3, and 73.0 mm) OD Tubing				For Pumps Run in 3 <sup>1</sup> / <sub>2</sub> in. (88.9 mm) OD Tubing			
		Top Anchor		Bottom Anchor		Top Anchor		Bottom Anchor	
Feet	mm	in.	mm	in.	mm	in.	mm	in.	mm
1	304.8	13	330.2	7	177.8	12	304.8	6	152.4
2	609.6	25	635.0	19	482.6	24	609.6	18	457.2
3	914.4	37	939.8	31	787.4	36	914.4	30	762.0
4	1219.2	49	1244.6	43	1092.2	48	1219.2	42	1066.8
5	1524.0	61	1549.4	55	1397.0	60	1524.0	54	1371.6
6	1828.8	73	1854.2	67	1701.8	72	1828.8	66	1676.4
7	2133.6	85	2159.0	79	2006.6	84	2133.6	78	1981.2
8	2438.4	97	2463.8	91	2311.4	96	2438.4	90	2286.0
9	2743.2	109	2768.6	103	2616.2	108	2743.2	102	2590.8
10	3048.0	121	3073.4	115	2921.0	120	3048.0	114	2895.6
11	3352.8	133	3378.2	127	3225.8	132	3352.8	126	3200.4
12	3657.6	145	3683.0	139	3530.6	144	3657.6	138	3505.2
13	3962.4	157	3987.8	151	3835.4	156	3962.4	150	3810.0
14	4267.2	169	4292.6	163	4140.2	168	4267.2	162	4114.8
15	4572.0	181	4597.4	175	4445.0	180	4572.0	174	4419.6
16	4876.8	193	4902.2	187	4749.8	192	4876.8	186	4724.4
17	5181.6	205	5207.0	199	5054.6	204	5181.6	198	5029.2
18	5486.4	217	5511.8	211	5359.4	216	5486.4	210	5334.0
19	5791.2	229	5816.6	223	5664.2	228	5791.2	222	5638.8
20	6096.0	241	6121.4	235	5969.0	240	6096.0	234	5943.6
21	6400.8	253	6426.2	247	6273.8	252	6400.8	246	6248.4
22	6705.6	265	6731.0	259	6578.6	264	6705.6	258	6553.2
23	7010.4	277	7035.8	271	6883.4	276	7010.4	270	6858.0
24	7315.2	289	7340.6	283	7188.2	288	7315.2	282	7162.8
25	7620.0	301	7645.4	295	7493.0	300	7620.0	294	7467.6
26	7924.8	313	7950.2	307	7797.8	312	7924.8	306	7772.4
27	8229.6	325	8255.0	319	8102.6	324	8229.6	318	8077.2
28	8534.4	337	8559.8	331	8407.4	336	8534.4	330	8382.0
29	8839.2	349	8864.6	343	8712.2	348	8839.2	342	8686.8
30	9144.0	361	9169.4	355	9017.0	360	9144.0	354	8991.6

<sup>a</sup> Including extensions on heavy wall barrels.

Table C.55: The figure shall be updated as follows:

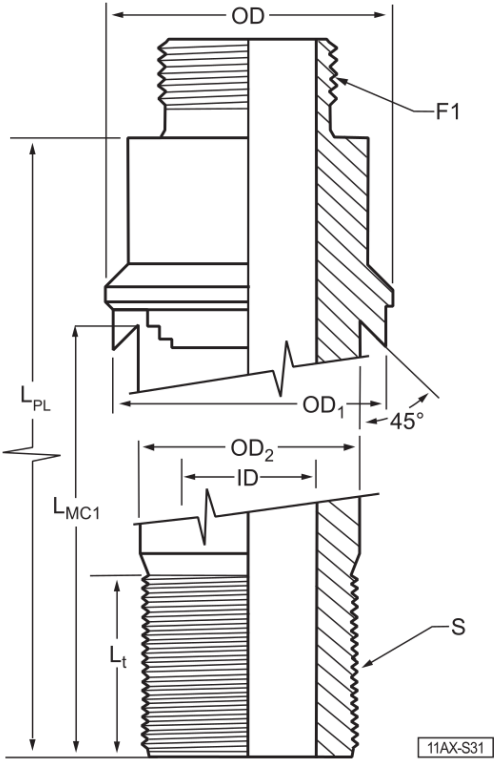


Table C.61: The table shall be updated as indicated by the red boxes:

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Dimensional Symbol	Part Number							
<b>Standard Assembly Number</b>	V11-106	V11-125	V11-150	V11-175	V11-200	V11-225	V11-250	V11-375
Standard Ball Number <sup>b</sup>	V12-106	V12-125	V12-150	V12-175 <sup>a</sup>	V12-200 <sup>a</sup>	V12-225	V12-250	V12-375
Standard Seat Number <sup>b</sup>	V13-106	V13-125	V13-150	V13-175	V13-200	V13-225	V13-250	V13-375
<b>Alternate Assembly Number</b>	V11A106	V11A125	V11A150	V11A175	V11A200	V11A225	V11A250	V11A375
Alternate Ball Number <sup>b</sup>	V12A106	V12A125	V12A150	V12A175	V12-175 <sup>a</sup>	V12-200 <sup>a</sup>	V12A250	V12A375
Alternate Seat Number <sup>b</sup>	V13A106	V13A125	V13A150	V13A175	V13A200	V13A225	V13A250	V13A375
<b>Dual Pattern Assembly Number with Standard Ball</b>	V11D106	V11D125	V11D150	V11D175	V11D200	V11D225	V11D250	V11D375
<b>Dual Pattern Assembly Number with Alternate Ball</b>	V11DA106	V11DA125	V11DA150	V11DA175	V11DA200	V11DA225	V11DA250	V11DA375
Standard Ball Number <sup>b</sup>	V12-106	V12-125	V12-150	V12-175 <sup>a</sup>	V12-200 <sup>a</sup>	V12-225	V12-250	V12-375
Alternate Ball Number <sup>b</sup>	V12A106	V12A125	V12A150	V12A175	V12-175 <sup>a</sup>	V12-200 <sup>a</sup>	V12A250	V12A375
<p>NOTE 1 Ball and seat valves are designed to operate in F22 boxes.</p> <p>NOTE 2 Each assembly consists of one ball and one seat as shown above.</p> <p>NOTE 3 The use of alternate (smaller) size balls can damage standard cages during pumping due to the increased ball to ball guide clearance. Alternate ball use requires a seat with a matching alternate seat contact area. Standard ball use requires a seat with a matching standard seat contact area.</p>								

Table F.3: The table shall be updated as indicated in the red boxes:

Identification Symbol	Description	Inside Surface Condition	Base Core Hardness	Base Material	Base Material Minimum Yield Strength, ksi
N1	Non-hardened steel	HRB 90 to HRC 23	HRB 90 to HRC 23	UNS G10XX0 UNS G15XX0 Steel	60
N2	Non-hardened low alloy steel	HRB 90 to HRC 23	HRB 90 to HRC 23	UNS G4XXX0 low alloy steel	50
N4	Ni/Cu alloy	HRB 90 to HRC 23	HRB 90 to HRC 23	UNS N0440X	55
N5	Brass	HRB 80 to HRB 100	HRB 80 to HRB 100	UNS C443XX (Inhibited Admiralty Brass)	50
N6	Austenitic stainless steel	HRB 90 to HRC 23	HRB 90 to HRC 23	UNS S30400 <sup>a</sup> Austenitic stainless steel	35

\*Previously Table C in the 12<sup>th</sup> Edition of this specification.

<sup>a</sup> Low carbon grades of material are acceptable for N6 (UNS S30403).

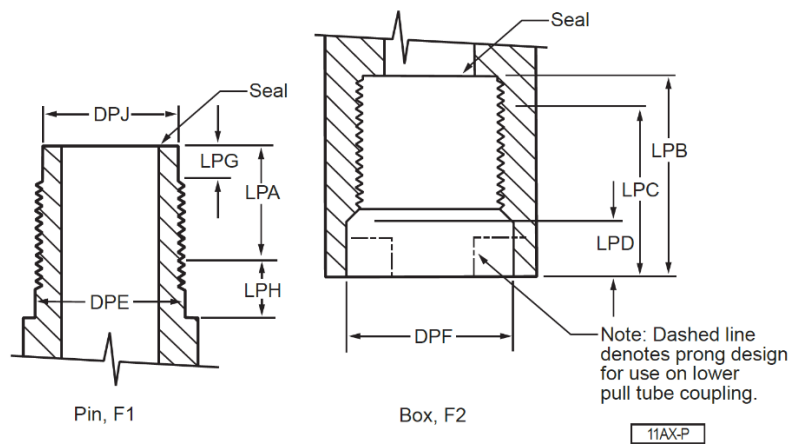
Table G.3: The table shall be replaced with the following:

Dimensional Symbol	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Thread Size <sup>a</sup>								
	0.8750-14	1.0000-14	1.2500-14	1.4704-14	1.5604-14	1.8024-14	2.1095-11 <sup>1</sup> / <sub>2</sub>	3.1715-11 <sup>1</sup> / <sub>2</sub>	
	in mm	in mm	in mm	in mm	in mm	in mm	in mm	in mm	in mm
$D_{FN}$ max.	0.806 20.47	0.931 23.65	1.180 29.97	1.401 35.59	1.491 37.87	1.733 44.02	2.025 51.44	3.086 78.38	
$D_{FN}$ min.	0.798 20.27	0.923 23.44	1.173 29.79	1.393 35.38	1.483 37.67	1.725 43.82	2.015 51.18	3.077 78.16	
$D_{FP}$ max.	0.890 22.61	1.020 25.91	1.270 32.26	1.485 37.72	1.580 40.13	1.820 46.23	2.130 54.1	3.195 81.15	
$D_{FP}$ min.	0.775 19.69	0.900 22.86	1.150 29.21	1.370 34.80	1.460 37.08	1.700 43.18	1.980 50.29	3.050 77.47	
$D_{FZ}$ max.	0.807 20.5	0.922 23.42	1.172 29.77	1.393 35.38	1.483 37.67	1.725 43.82	2.015 51.18	3.077 78.16	
$D_{FZ}$ min.	0.768 19.51	0.892 22.66	1.111 28.22	1.331 33.81	1.421 36.09	1.631 41.43	1.921 48.79	2.950 74.93	
$L_{FA}$ max.	0.766 19.46	0.766 19.46	0.766 19.46	0.828 21.03	0.891 22.63	0.891 22.63	0.954 24.23	1.141 28.98	
$L_{FA}$ min.	0.734 18.64	0.734 18.64	0.734 18.64	0.796 20.22	0.859 21.82	0.859 21.82	0.922 23.42	1.109 28.17	
$L_{FO}$ max.	1.141 28.98	1.141 28.98	1.141 28.98	1.204 30.58	1.266 32.16	1.266 32.16	1.328 33.73	1.766 44.86	
$L_{FO}$ min.	1.109 28.17	1.109 28.17	1.109 28.17	1.172 29.77	1.234 31.34	1.234 31.34	1.296 32.92	1.734 44.04	
$L_{FU}$ max.	0.875 22.23	0.875 22.23	0.875 22.23	0.938 23.83	1.000 25.40	1.000 25.4	1.062 26.97	1.312 33.32	
$L_{FU}$ min.	0.766 19.46	0.766 19.46	0.766 19.46	0.828 21.03	0.890 22.61	0.890 22.61	0.953 24.21	1.188 30.18	
$L_{FV}$ max.	1.000 25.40	1.000 25.40	1.000 25.40	1.125 28.58	1.188 30.18	1.188 30.18	1.250 31.75	1.625 41.28	
$L_{FV}$ min.	0.938 23.83	0.938 23.83	0.938 23.83	1.000 25.40	1.062 26.97	1.062 26.97	1.125 28.58	1.375 34.93	
$L_{FW}$ max.	0.688 17.48	0.688 17.48	0.688 17.48	0.750 19.05	0.812 20.62	0.812 20.62	0.875 22.23	1.062 26.97	
$L_{FW}$ min.	0.625 15.88	0.625 15.88	0.625 15.88	0.688 17.48	0.750 19.05	0.750 19.05	0.812 20.62	1.000 25.40	

<sup>a</sup> See Table G.8 for thread dimensions.

NOTE The thread start for the F1 and F1A threads are by manufacturer's design.

Table G.7: The figure and table shall be replaced with the following:



(1)	(2)	(3)	(4)	(5)	(6)
Dimensional Symbol	Thread Size <sup>a</sup>				
	0.9375-16	1.1250-16	1.3125-16	1.5000-16	1.8750-16
LPA min.	1.000 (25.40)	1.125 (28.58)	1.250 (31.75)	1.375 (34.93)	1.625 (41.28)
LPB max.	1.688 (42.88)	1.812 (46.02)	1.938 (49.23)	2.062 (52.37)	2.312 (58.72)
LPC min.	1.500 (38.10)	1.625 (41.28)	1.750 (44.45)	1.875 (47.63)	2.125 (53.98)
LPD min.	0.750 (19.05)	0.750 (19.05)	0.750 (19.05)	0.750 (19.05)	0.750 (19.05)
DPE+0.000/-0.005 (+0.00/-0.13)	0.939 (23.85)	1.127 (28.63)	1.314 (33.38)	1.502 (38.15)	1.877 (47.68)
DPF+0.005/-0.000 (+0.13/-0.00)	0.943 (23.95)	1.131 (28.73)	1.318 (33.48)	1.506 (38.25)	1.881 (47.78)
LPG min.	0.250 (6.35)	0.250 (6.35)	0.250 (6.35)	0.250 (6.35)	0.250 (6.35)
LPH min.	0.750 (19.05)	0.750 (19.05)	0.750 (19.05)	0.750 (19.05)	0.750 (19.05)
DPJ <sup>b</sup>					
NOTE All dimensions in inches (followed by equivalent in millimeters).					
<sup>a</sup> See Table G.8 for thread dimensions.					
<sup>b</sup> See Table G.8 for pin relief dimensions.					