

High  
performance



**VAM® 21 / VAM® 21 HT**

- VAM® TOP
- VAM® TOP HC
- VAM® TOP HT
- VAM® HP
- VAM® HW ST
- VAM® SLIJ-II
- VAM® SG
- VAM® FJL
- VAM® HTF
- VAM® HTT
- VAM® BOLT
- DINO VAM®
- BIG OMEGA™
- DWC™
- VAM® SW
- VAM® MUST
- VAM® TOP FE
- VAM® TTR

**VAM® 21**

Connect with confidence

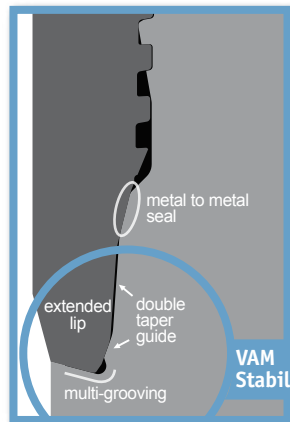
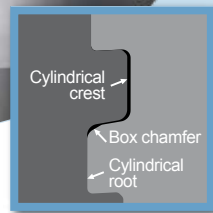
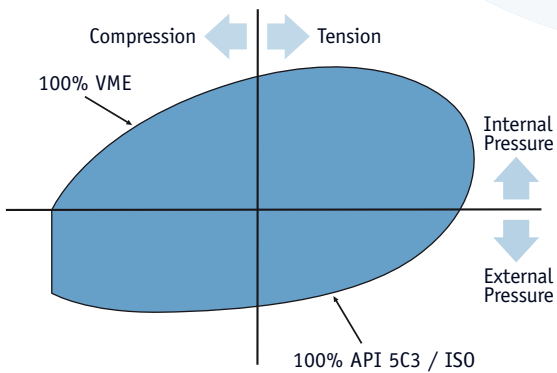
# Design Features

## VAM<sup>®</sup> 21

## VAM<sup>®</sup> 21 HT



VAM<sup>®</sup> 21 is ISO 13679 CAL-IV qualified within the full pipe envelope



AVAILABLE WITH  
CLEANWELL OPTION

**VAM® 21 is the latest generation of T&C premium connection introducing an innovative and revolutionary design. Confidence thanks to ISO 13679 CAL-IV compliance within the full pipe body envelope extends the opportunities for your well designs.**

## Benefits

- SIMPLE, RELIABLE AND EASY RUNNING
- SEAL PROTECTED FROM ROUGH HANDLING
- SUITABLE FOR AUTOMATED RIG HANDLING SYSTEMS
- CLEAR AND REPEATABLE MAKE-UP CHARTS
- PERFORMANCES PRESERVED WHEN INCREASING TORQUE (MTS VALUE)
- REDUCED DRILLING WEAR SUSCEPTIBILITY



## The best VAM® T&C premium connection

VAM® 21 is the highest performing and most reliable VAM® connection to date with excellent gas tight sealing under combined loads, extreme compression resistance (100%) and innovative VAM® Effect with the VAM® Stabilizer™. Seal and shoulder functions are separated so that torque and compression have no affect on the sealing performance.

## Applications

Suitable for any kind of application, even the most critical:

- PRODUCTION CASING
- TUBING
- LINER
- TIE-BACK
- EXTREME HPHT WELL DESIGNS

## Performances

- **FIRST CONNECTION VALIDATED TO ISO 13679 FDIS-2011 CAL-IV**, the most stringent connection qualification procedure to date
- **EXTREME COMPRESSION RESISTANCE** (100% of Pipe Body Yield Strength)
- **BENDING VALIDATED UP TO 42°/100FT**
- **SEALABILITY VALIDATED UP TO 240°C (464°F)**

## VAM® 21 HT

Provides even more torque for dedicated applications: Rotating liner, Drilling with Casing, ERD, Multilateral wells, horizontal sections.

**VAM® 21** and **VAM® 21 HT** are interchangeable.

SCAN THIS QR CODE WITH YOUR SMARTPHONE  
TO KNOW MORE ABOUT **VAM® 21**



SIZE (OD)	NOM. WEIGHT	WALL THICKNESS		VAM® 21 MAX. DRIFT	MAKE-UP LOSS	COUPLING OD	COUPLING LENGTH	MAKE-UP TORQUE (all grades) (ft.lb)			VAM® 21 MAXI. TORQUE WITH SEALABILITY (MTS) (ft.lb)				VAM® MAXI. TORQUE WITH SEALABILITY (ft.lb)	
		in.	mm					in.	in.	in.	in.	Min.	Opti.	Max.	80 ksi	95 ksi
5 127.00	18.0	0.362	9.195	4.151	4.079	5.604	9.134	8 750	9 450	10 150	10 350	12 050	13 800	15 550	12 350	14 450
	21.4	0.437	11.100	4.001	4.472	5.699	9.921	11 200	12 100	12 700	12 700	14 800	16 950	19 150	14 100	16 550
	23.2	0.478	12.141	3.919	4.472	5.758	9.921	12 250	13 250	13 750	13 750	16 050	18 400	20 800	16 150	18 950
5 1/2 139.70	17.0	0.304	7.722	4.767	4.079	6.018	9.134	7 250	7 850	8 450	8 800	10 250	11 750	13 250	10 700	12 500
	20.0	0.361	9.169	4.700 S	4.079	6.110	9.134	9 450	10 200	10 950	11 650	13 600	15 600	17 600	14 400	16 850
	23.0	0.415	10.541	4.600 S	4.079	6.195	9.134	11 550	12 500	13 450	14 550	17 000	19 500	22 050	18 000	21 100
	26.0	0.476	12.090	4.500 S	4.472	6.268	9.921	13 250	14 350	15 450	15 700	18 350	21 050	23 800	19 250	22 600
6 5/8 168.28	26.8	0.500	12.700	4.375	4.472	6.303	9.921	14 000	15 150	16 300	16 500	19 250	22 100	24 950	20 700	24 250
	23.2	0.330	8.382	5.875 S	4.591	7.173	10.157	9 300	10 050	10 800	11 250	13 100	15 000	16 900	16 250	19 050
	24.0	0.352	8.941	5.796	4.591	7.211	10.157	10 200	11 050	11 900	12 400	14 450	16 500	18 600	18 300	21 500
	28.0	0.417	10.592	5.666	4.591	7.317	10.157	14 300	15 450	16 600	18 600	21 800	25 000	28 250	24 550	28 850
	32.0	0.475	12.065	5.500	4.591	7.409	10.157	18 100	19 550	21 000	24 400	28 600	32 850	37 200	30 150	35 450
7 177.80	36.7	0.562	14.275	5.376	4.945	7.522	10.866	21 150	22 850	24 550	27 200	31 950	36 800	41 700	33 650	39 650
	23.0	0.317	8.052	6.350 S	4.866	7.516	10.709	9 950	10 750	11 550	12 350	14 450	16 600	18 750	15 800	18 600
	26.0	0.362	9.195	6.151	4.866	7.593	10.709	11 100	12 000	12 900	13 050	15 200	17 350	19 600	20 500	24 100
	29.0	0.408	10.363	6.125 S	4.866	7.669	10.709	13 150	14 200	15 250	15 650	18 250	20 850	23 550	25 450	29 950
	32.0	0.453	11.506	6.000 A	4.866	7.742	10.709	16 600	17 950	19 300	21 250	24 900	28 550	32 300	30 300	35 650
	35.0	0.498	12.649	6.000 S	4.866	7.813	10.709	20 350	22 000	23 650	27 300	32 000	36 750	41 650	35 100	41 250
	38.0	0.540	13.716	5.875 S	5.260	7.854	11.496	22 450	24 250	26 050	29 000	34 050	39 250	44 500	34 400	40 550
	41.0	0.590	14.986	5.695	5.260	7.931	11.496	24 550	26 550	28 550	31 500	37 000	42 600	48 350	39 250	46 250
7 5/8 193.68	42.7	0.625	15.875	5.625	5.260	7.982	11.496	26 050	28 150	30 250	33 300	39 100	45 050	51 100	42 500	50 150
	29.7	0.375	9.525	6.750 S	4.535	8.278	10.039	12 750	13 800	14 850	16 000	18 650	21 300	24 000	25 150	29 600
	33.7	0.430	10.922	6.750 S	4.535	8.370	10.039	16 450	17 800	19 150	21 650	25 250	28 950	32 700	32 350	38 050
	35.8	0.465	11.811	6.570	4.535	8.427	10.039	18 800	20 300	21 800	25 200	29 400	33 700	38 050	37 050	43 550
	39.0	0.500	12.700	6.500	4.535	8.482	10.039	22 000	23 800	25 600	30 300	35 450	40 600	45 950	41 650	48 950
9 5/8 244.48	40.0	0.395	10.030	8.750 A	4.748	10.319	10.512	21 000	23 350	25 700	26 300	27 350	29 300	31 100	39 000	46 000
	43.5	0.435	11.050	8.625 S	5.378	10.356	11.772	24 750	27 500	29 850	29 850	30 850	32 800	34 650	45 300	53 400
	47.0	0.472	11.990	8.625 S	5.378	10.419	11.772	28 450	31 600	34 700	34 700	36 000	38 450	40 800	52 900	62 200
	53.5	0.545	13.840	8.525 S	5.378	10.541	11.772	38 300	42 550	46 800	51 450	53 650	57 500	61 150	56 500	66 400
9 7/8 250.83	58.4	0.595	15.110	8.425 S	5.496	10.610	12.008	39 350	43 700	48 050	63 050	66 350	71 500	76 300	65 000	76 900
	62.8	0.625	15.880	8.500 S	5.398	10.941	11.811	40 350	44 850	49 350	74 450	78 650	85 100	91 050		
	65.3	0.650	16.510	8.500 S	5.398	10.980	11.811	41 350	45 950	50 550	81 450	86 100	93 150	99 750		
	66.4	0.661	16.790	8.500 S	5.398	10.998	11.811	41 750	46 400	51 050	86 350	91 350	98 850	105 950		
	66.9	0.668	16.970	8.500 S	5.398	11.010	11.811	42 050	46 700	51 350	86 400	91 400	98 950	106 000		
10 254.00	68.9	0.700	17.780	8.500 S	6.744	11.045	14.488	42 500	47 200	51 900	70 750	73 200	77 950	82 600		
	73.9	0.732	18.590	8.500 S	5.717	11.213	12.441	42 550	47 250	52 000	78 550	81 350	86 650	91 800		
	45.5	0.400	10.160	9.875 A	4.846	11.482	10.709	23 600	26 200	28 800	31 500	32 850	35 200	37 450		
	51.0	0.450	11.430	9.694	5.280	11.547	11.575	27 950	31 050	34 150	35 300	36 650	39 150	41 550		
	55.5	0.495	12.570	9.625 A	5.280	11.626	11.575	35 700	39 650	43 600	48 150	50 250	53 850	57 300		
	60.7	0.545	13.840	9.504	5.280	11.711	11.575	38 650	42 950	47 250	62 400	65 250	70 100	74 700		
10 3/4 273.05	65.7	0.595	15.110	9.500 S	5.358	11.778	11.732	39 400	43 800	48 200	73 250	77 400	83 700	89 400		
	54.0	0.435	11.050	10.724	5.043	12.539	11.102	31 400	34 900	38 400	44 700	46 800	50 300	53 600		
	60.0	0.489	12.420	10.625 A	5.280	12.622	11.575	36 600	40 650	44 700	52 350	54 600	58 550	62 300		
	65.0	0.534	13.560	10.625 A	5.280	12.701	11.575	38 700	43 000	47 300	67 950	71 100	76 300	81 300		
11 3/4 298.45	71.0	0.582	14.780	10.500 S	5.280	12.770	11.575	39 100	43 450	47 800	78 750	83 250	90 100	96 350		
	67.8	0.550	13.970	10.625 S	5.398	12.846	11.811	40 150	44 600	49 050	74 250	77 800	83 600	89 150		
	71.8	0.582	14.780	10.625 S	5.319	12.894	11.654	40 500	45 000	49 500	79 750	84 300	91 200	97 600		
13 3/8 339.73	61.0	0.430	10.920	12.359	5.280	14.150	11.575	32 200	35 750	39 350	45 700	47 800	51 300	54 650		
	68.0	0.480	12.190	12.259	5.555	14.224	12.126	37 650	41 850	46 050	53 350	55 600	59 500	63 250		
	72.0	0.514	13.060	12.250 A	5.555	14.285	12.126	39 400	43 750	48 150	68 300	71 350	76 600	81 550		
	77.0	0.550	13.970	12.250 S	5.909	14.319	12.835	39 500	43 900	48 300	74 300	78 350	84 700	90 650		

A: Alternate Drift  
S: Special Drift

Special Clearance (SC)  
option available

Any make-up torque between min  
and MTS are acceptable

MTS values for cold worked CRA  
materials may be different

VAM® 21 HT is not available with Special Drifts

Interchangeable weights within each size are represented by scales of gray

For VAM® 21 HT:  
Make-up at mill, licensee or a  
between 95% and 100% of MTS  
upon customer agreement.

Make-up at the rig site: any torque  
Opti and MTS can be used (except  
90% of MTS for rotating liner)

Product Line



and



21 HT SEALABILITY (MTS) (lb)		TENSILE YIELD STRENGTH & COMPRESSION RESISTANCE (x1000 lb)				MINIMUM INTERNAL YIELD PRESSURE (API 5C3 MIYP) (psi)				EXTERNAL PRESSURE RESISTANCE (API 5C3) (psi)				NOM. WEIGHT	SIZE (OD)
110 ksi	125 ksi	80 ksi	95 ksi	110 ksi	125 ksi	80 ksi	95 ksi	110 ksi	125 ksi	80 ksi	95 ksi	110 ksi	125 ksi	lb/ft	in. mm
16 550	18 700	422	501	580	659	10 140	12 040	13 940	15 840	10 500	12 020	13 470	14 820	18.0	5 127.00
18 950	21 450	501	595	689	783	12 240	14 530	16 820	19 120	12 760	15 150	17 550	19 940	21.4	
21 750	24 600	543	645	747	849	13 380	15 890	18 400	20 910	13 830	16 430	19 020	21 620	23.2	
14 400	16 250	397	471	546	620	7 740	9 190	10 640	12 090	6 290	6 940	7 480	7 890	17.0	5 1/2 139.70
19 350	21 900	466	554	641	729	9 190	10 910	12 640	14 360	8 830	10 020	11 110	12 090	20.0	
24 200	27 400	530	630	729	829	10 560	12 540	14 530	16 510	11 160	12 930	14 540	16 060	23.0	
26 000	29 450	601	714	826	939	12 120	14 390	16 660	18 930	12 650	15 020	17 390	19 760	26.0	6 5/8 168.28
27 900	31 650	628	746	864	982	12 730	15 110	17 500	19 890	13 220	15 700	18 180	20 660	26.8	
21 950	24 900	522	620	718	816	6 970	8 280	9 590	10 900	4 950	5 320	5 570	5 840	23.2	
24 750	28 050	555	659	763	867	7 440	8 830	10 230	11 620	5 760	6 310	6 730	7 020	24.0	7 177.80
33 200	37 700	651	773	895	1 017	8 810	10 460	12 120	13 770	8 170	9 220	10 160	11 000	28.0	
40 800	46 250	734	872	1 010	1 147	10 040	11 920	13 800	15 680	10 320	11 830	13 230	14 540	32.0	
45 750	51 950	856	1 017	1 178	1 338	11 880	14 100	16 330	18 560	12 420	14 750	17 080	19 410	36.7	7 5/8 193.68
21 400	24 300	532	632	732	832	6 340	7 530	8 720	9 910	3 830	4 150	4 430	4 650	23.0	
27 750	31 500	604	717	830	944	7 240	8 600	9 960	11 310	5 410	5 890	6 230	6 450	26.0	
34 500	39 150	676	803	929	1 056	8 160	9 690	11 220	12 750	7 030	7 840	8 530	9 110	29.0	7 177.80
41 100	46 600	745	885	1 025	1 165	9 060	10 760	12 460	14 160	8 610	9 740	10 780	11 710	32.0	
47 500	53 900	814	966	1 119	1 272	9 960	11 830	13 700	15 560	10 190	11 650	13 030	14 320	35.0	
46 800	53 100	877	1 041	1 206	1 370	10 800	12 830	14 850	16 880	11 390	13 430	15 130	16 740	38.0	7 5/8 193.68
53 400	60 650	950	1 129	1 307	1 485	11 800	14 010	16 230	18 440	12 350	14 660	16 980	19 300	41.0	
57 900	65 750	1 001	1 189	1 377	1 565	12 500	14 840	17 190	19 530	13 010	15 450	17 890	20 330	42.7	
34 050	38 650	683	811	940	1 068	6 890	8 180	9 470	10 760	4 790	5 130	5 350	5 670	29.7	7 5/8 193.68
43 800	49 700	778	923	1 069	1 215	7 900	9 380	10 860	12 340	6 560	7 270	7 870	8 340	33.7	
50 150	56 850	837	994	1 151	1 307	8 540	10 140	11 740	13 340	7 690	8 640	9 480	10 200	35.8	
56 300	63 800	895	1 063	1 231	1 399	9 180	10 900	12 620	14 340	8 820	10 000	11 080	12 060	39.0	9 5/8 244.48
53 000	60 200	916	1 088	1 260	1 432	5 750	6 820	7 900	8 980	3 080	3 330	3 470	3 530	40.0	
61 500	69 900	1 005	1 193	1 381	1 570	6 330	7 510	8 700	9 890	3 810	4 130	4 410	4 620	43.5	
71 700	81 400	1 086	1 289	1 493	1 697	6 870	8 150	9 440	10 730	4 760	5 090	5 300	5 630	47.0	9 7/8 250.83
76 300	86 500	1 244	1 477	1 710	1 943	7 930	9 410	10 900	12 390	6 620	7 340	7 950	8 440	53.5	
88 900	101 200	1 350	1 604	1 857	2 110	8 650	10 280	11 900	13 520	7 900	8 880	9 770	10 540	58.4	
		1 453	1 725	1 998	2 270	8 860	10 520	12 180	13 840	8 260	9 320	10 290	11 140	62.8	9 7/8 250.83
		1 507	1 790	2 072	2 355	9 220	10 940	12 670	14 400	8 880	10 070	11 170	12 160	65.3	
		1 531	1 818	2 105	2 392	9 370	11 130	12 890	14 640	9 150	10 400	11 560	12 610	66.4	
		1 546	1 836	2 125	2 415	9 470	11 250	13 020	14 800	9 330	10 610	11 810	12 900	66.9	10 254.00
		1 614	1 917	2 219	2 522	9 920	11 780	13 650	15 510	10 120	11 580	12 940	14 210	68.9	
		1 705	2 025	2 344	2 664	10 250	12 170	14 090	16 010	10 690	12 260	13 750	15 150	73.9	
		1 040	1 236	1 431	1 626	5 210	6 190	7 160	8 140	2 470	2 590	2 610	2 610	45.5	10 3/4 273.05
		1 165	1 383	1 602	1 820	5 860	6 960	8 060	9 160	3 210	3 490	3 660	3 740	51.0	
		1 276	1 515	1 754	1 993	6 450	7 660	8 860	10 070	4 020	4 290	4 610	4 850	55.5	
		1 398	1 660	1 922	2 184	7 100	8 430	9 760	11 090	5 160	5 580	5 880	6 070	60.7	11 3/4 298.45
		1 519	1 803	2 088	2 373	7 750	9 200	10 650	12 110	6 310	6 960	7 510	7 920	65.7	
		1 237	1 469	1 701	1 933	5 180	6 150	7 130	8 100	2 440	2 550	2 570	2 570	54.0	
		1 384	1 643	1 903	2 162	5 830	6 920	8 010	9 100	3 170	3 440	3 610	3 680	60.0	11 7/8 301.63
		1 505	1 788	2 070	2 352	6 360	7 560	8 750	9 940	3 870	4 180	4 470	4 690	65.0	
		1 634	1 940	2 246	2 552	6 930	8 230	9 530	10 840	4 880	5 240	5 470	5 760	71.0	
		1 565	1 859	2 153	2 446	6 480	7 700	8 920	10 130	4 080	4 340	4 670	4 920	67.8	13 3/8 339.73
		1 652	1 962	2 271	2 581	6 860	8 150	9 430	10 720	4 750	5 080	5 290	5 630	71.8	
		1 399	1 661	1 924	2 186	4 500	5 340	6 190	7 030	1 670	1 670	1 670	1 670	61.0	
		1 556	1 847	2 139	2 431	5 020	5 970	6 910	7 850	2 260	2 330	2 330	2 330	68.0	13 3/8 339.73
		1 661	1 973	2 284	2 596	5 380	6 390	7 400	8 410	2 660	2 820	2 880	2 880	72.0	
		1 773	2 105	2 438	2 770	5 760	6 840	7 920	9 000	3 090	3 340	3 490	3 550	77.0	

1 ksi = 1000 psi  
1 psi = 0.006895 Mpa = 0.06895 bar

Higher Internal Pressure resistance is possible through controlled wall thickness tolerance

Higher External Pressure resistance is possible using High Collapse grades

# World Leader in Premium Tubular Solutions



- Sales Offices
- Steel Making Plants
- Manufacturing Plants
- Accessories and Repair  
VAM® Licensee Facilities
- VAM® Field Service  
International

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VALLOUREC & MANNESMANN TUBES