

TripleStep Swivel Joints

Advanced material selection

The TripleStep swivel joint is manufactured from forged alloy steel with a closely controlled, proprietary chemical composition and heat treatment to ensure superior toughness, ductility, case depth, case hardness, and core strength.

Instream packing for long seal life

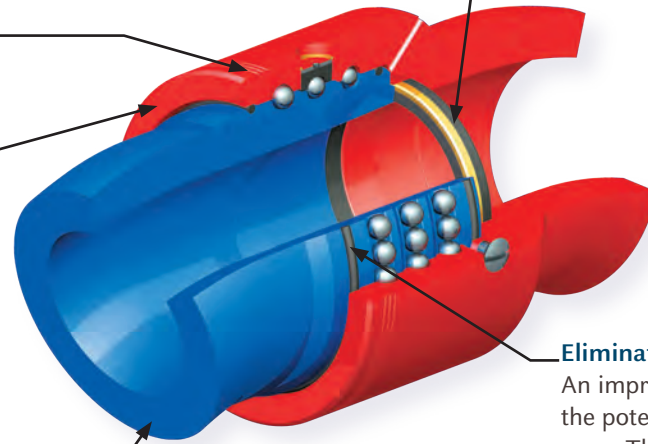
World proven instream packing technology provides unsurpassed sealability and reliability in the harshest oilfield conditions. An integral anti-extrusion ring serves as a retainer and bearing to reduce friction between the resilient packing material and the packing chamber as the joint is rotated.

Exclusive design delivers longer life, lower cost

TripleStep swivel joints deliver the highest bending and axial load capacities in the industry. They also eliminate rejections from excessive wear in the ball race areas as well as swivel seizures due to corrosion and brinnelling of the ball races.

Unmatched erosion allowance

Patented three step design coupled and bearing race geometry adds significant wall thickness under the male races and bearing load capacity without increasing swivel joint size or weight.



Eliminates routine maintenance

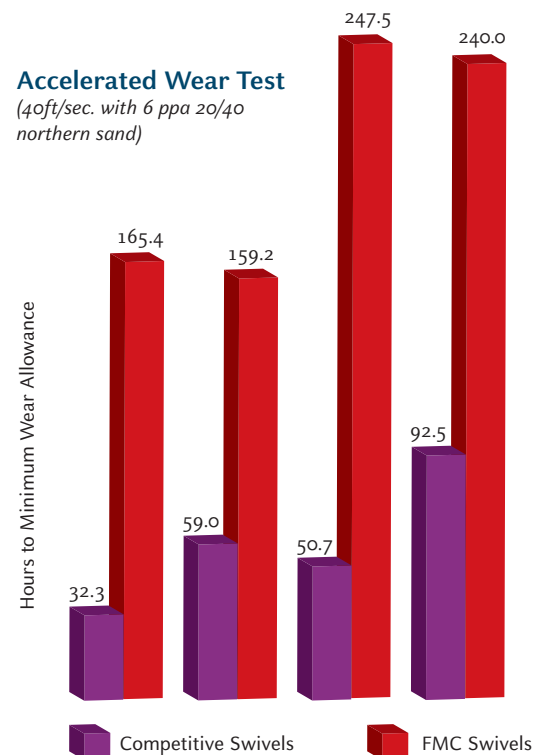
An improved environmental seal reduces the potential for corrosion in the ball race area. The integrity of the seal and the use of a high-performance grease during initial assembly virtually eliminates the need for periodic greasing.

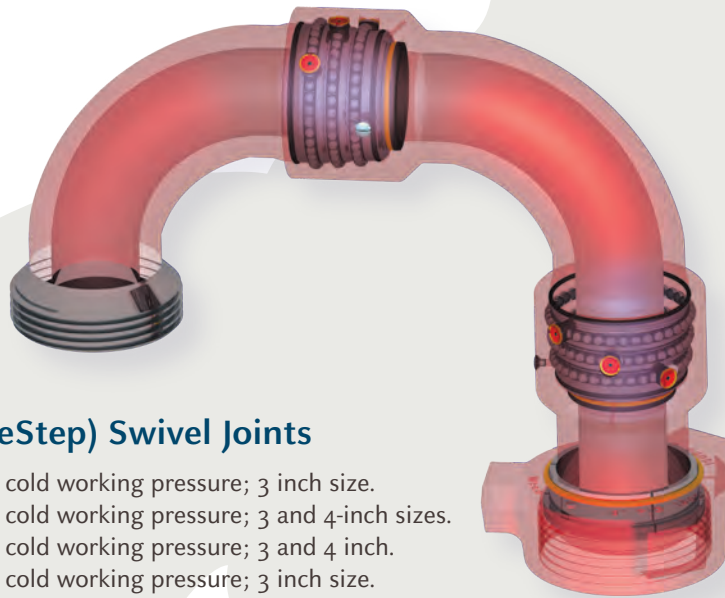
Competitive Hype VS. Proof Positive

Designed especially for abrasive, high pressure well servicing applications, TripleStep swivel joints have been proven against competitive swivels in customer-witnessed flow loop tests and field applications. The patented three step ball race design provides significantly greater erosion allowance without increasing swivel joint size or weight. The result: TripleStep swivel joints deliver increased life, superior performance, and reduced maintenance...lasting 1.7 to 5 times longer than competitive swivels.

Thicker Where it Counts

Competitive swivels wear out first in the ball races, meaning they must be disassembled for inspection. TripleStep swivels wear in the elbows, meaning they can be inspected and returned to service without disassembly. The TripleStep design places more material under the male ball race - a location that computational flow dynamics analysis and field testing shows to be a high erosion area.





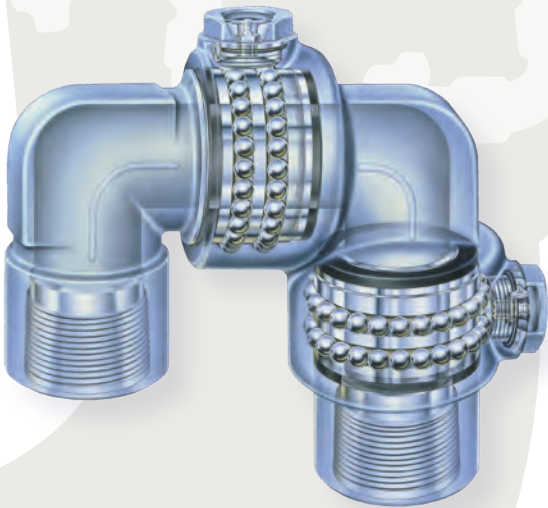
TSi (TripleStep) Swivel Joints

- 6,000 psi cold working pressure; 3 inch size.
- 10,000 psi cold working pressure; 3 and 4-inch sizes.
- 15,000 psi cold working pressure; 3 and 4 inch.
- 20,000 psi cold working pressure; 3 inch size.

For Longsweep swivels and sizes or pressures not shown, consult factory

Recommended service

Long-radius elbows designed especially for high-pressure abrasive applications such as fracturing, choke-and-kill lines, cementing and circulating hoses, acidizing, and test lines

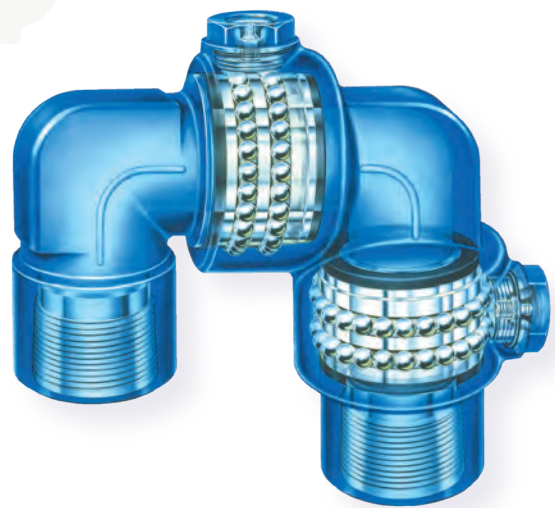


HP (High-Pressure) Swivel Joints

6,000 psi cold working pressure; 3/8 to 4-inch sizes

Recommended service

Hydraulic control lines, mud lines, rotary line connections, BOP lines, test lines, offshore wellhead connections, cementing and circulating hoses, and choke-and-kill lines



Low-Pressure Swivel Joints

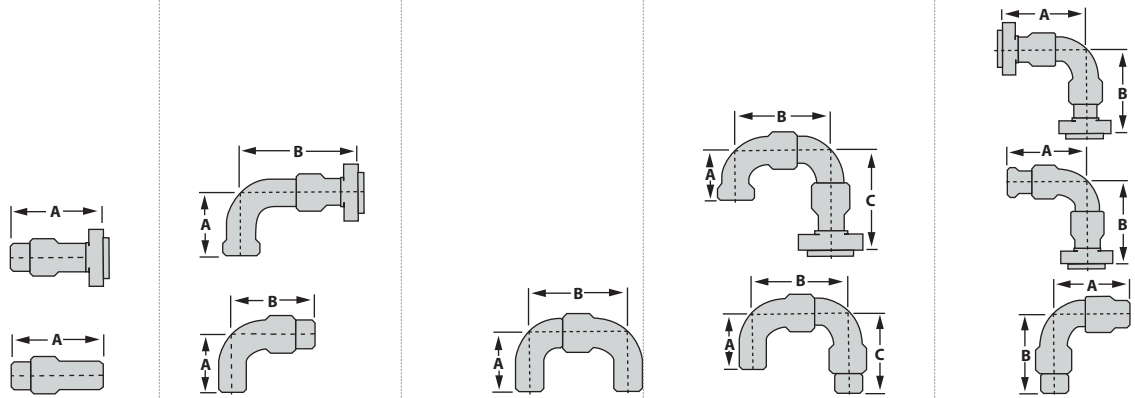
175 psi to 1,000 psi cold working pressure; 3/4 to 12-inch sizes.

Recommended service

Transfer lines, temporary flow lines, discharge lines, auxiliary flow lines, water lines, and other general-service oilfield applications.

Chiksan® Swivel Joint Specifications

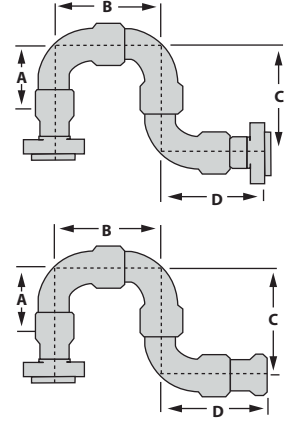
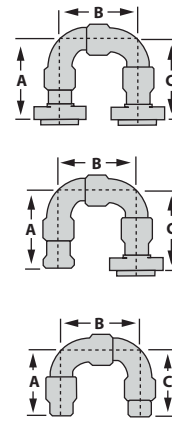
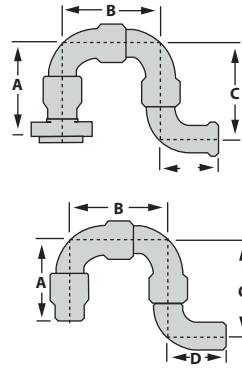
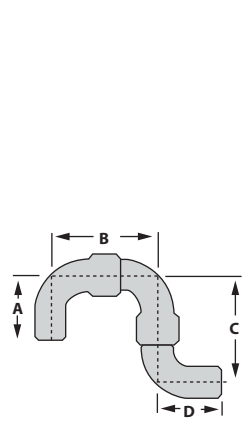
TripleStep and Longsweep® Swivel Joints



Size/Model Bore in. (mm)	CWP psi (bar)	End Connections	Style 20			Style 30				Style 40				Style 50				Style 60								
			Part No.	A	Wt lb kg	Part No.	A	B	Wt lb kg	Part No.	A	B	Wt lb kg	P/N P/N-LT	A	B	C	Wt lb kg	Part No.	A	B	Wt lb kg				
1" LS10 .88 (22)	10,000 (690)	Threaded	CF			6101537	4.38	7.14	8	N/A				3139546	4.38	7.28	7.02	16	CF							
						6101537-LT	111	181	3.6					3139546-LT	111	185	178	7.2								
1" LS15 .88 (22)	15,000 (1034)	1502 (MxF)	CF			3259291	4.06	8.4	12	N/A				3139547	4.06	7.35	8.4	22	CF							
		1502 (MxM)	CF			3259291-LT	103	213	5.5					3139547-LT	103	187	213	10.2								
1.5" LS10 1.3 (33)	10,000 (690)	Threaded	P506047 P506047-LT	6.53	8	CF				N/A				3139779	7.96	9.37	7.96	26	CF							
				166	3.6									3139779-LT	202	238	202	11.8								
1.5" LS15 1.3 (33)	15,000 (1034)	1502 (MxF)	P510860 P510860-LT	10.87	26	CF				N/A				3139778	5	9.4	10.1	34	CF							
		1502 (MxM)	CF											3139778-LT	127	239	257	15.5								
2" LS10 1.88 (48)	10,000 (690)	Threaded	P523525	7.2	14	3139888	6.38	9.01	21	3139890	6.36	10.73	30	3139904	6.4	10.74	9	37	3144545	9	9	23				
				183	6.2		3139888-LT	162	229		9.5	3139890-LT	162	273	13.6	3139904-LT	163	273					229	16.8	3144545-LT	229
2" LS15 1.88 (48)	15,000 (1034)	1502 (MxF)	P514100	11.15	37	3144126	5.5	10.91	36	N/A				3139475	5.5	10.74	10.92	56	3144630	11	11	48				
		1502 (MxM)	CF			3144126-LT	140	277	16.3					3139475-LT	140	273	277	25.5					3144630-LT	279	279	22
		1502 (FxF)	CF			N/A								3267203	7.28	10.74	10.92	60					6101559	11	11	62
		CF				N/A								3267203-LT	185	273	277	27.2					6101559-LT	279	279	28.1
		1502 (FxF)	CF			N/A			N/A				3144000	5.5	10.74	8.79	42	P504952	8.79	8.79	37					
		1502 (FxF)	CF			N/A			N/A				3144000	140	273	223	18.9	P504952-LT	223	223	16.9					
2" LS20 1.88 (48)	20,000 (1379)	2002 (MxF)	CF			CF				N/A				3144569	5.12	10.9	12.42	62	CF							
		2002 (MxM)	CF			P524579 P524579-LT								3144569-LT	130	277	315	28.3					P512325	12.51	12.51	66
		2002 (MxM)	CF			P524579 P524579-LT				N/A				N/A					P512325-LT	318	318	30.2				
3" TSi15 2.75 (70)	7,500 (517)	Threaded	CF			N/A				N/A				N/A					CF							
3" TSi15 2.75 (70)	15,000 (1034)	1502 (MxF)	P505417 P505417-LT	12.6	52	P505416	7.9	14.4	68	N/A				P505327	7.9	16.4	14.4	107	P505420	14.5	14.5	91				
		1502 (MxM)	CF			P505416-LT	201	366	31					P505327-LT	201	417	366	48.4					P505420-LT	368	368	41.3
		1502 (MxM)	CF			N/A				N/A				N/A					CF							
3" TSi20 3 (76)	20,000 (1379)	2002 (MxF)	CF			CF				N/A				P527340	9.69	21.2	20.4	288	CF							
		2002 (MxF)	CF			CF				N/A				P527340-LT	246	538	518	131	CF							
4" TSi10 3.88 (98)	10,000 (690)	1002 (MxF)	P516092 P516092-LT	14.5	74	P517487	8.3	16.2	99	N/A				P516091	8.3	18.1	16.2	161	CF							
		1002 (MxM)	CF			P517487-LT	211	411	45					P516091-LT	211	460	411	73.3								
		1002 (MxM)	CF			N/A				N/A				N/A					CF							
4" TSi15 3.5 (89)	15,000 (690)	1502 (MxF)	P530256 P530256-LT	19.6	141	CF				N/A				P527331	9.69	21.2	20.4	255	CF							
				443										P527331-LT	246	538	518	116								

Chiksan® Swivel Joint Specifications

TripleStep and Longsweep® Swivel Joints



Size/ Model Bore in. (mm)	CWP psi (bar)	End Connections	Style 70					Style 80					Style 10					Style 100							
			Part No.	A	B	C	D	Wt lb kg	Part No.	A	B	C	D	Wt lb kg	P/N P/N-LT	A	B	C	Wt lb kg	Part No.	A	B	C	D	Wt lb kg
1" LS10 .88 (22)	10,000 (690)	Threaded	N/A						CF						3141454	7.14	7.46	7.14	24	N/A					
															3141454-LT	181	189	181	10.9						
1" LS15 .88 (22)	15,000 (1034)	1502 (MxF)	N/A						P516135	8.4	7.47	7.47	4.06	28	3139550	8.4	7.4	8.4	27	CF					
		1502 (MxM)	N/A						N/A						3145886	8.4	7.4	8.4	27	CF					
1.5" LS10 1.3 (33)	10,000 (690)	Threaded	N/A						CF						P501542	7.96	9.37	7.96	26	N/A					
															P501542-LT	202	238	202	11.8						
1.5" LS15 1.3 (33)	15,000 (1034)	1502 (MxF)	N/A						P502504	10.12	9.37	9.37	5	47	3139781	10.12	9.37	10.12	44	CF					
		1502 (MxM)	N/A						N/A						3139781-LT	257	238	257	20	CF					
2" LS10 1.88 (48)	10,000 (690)	Threaded	3139891	6.38	10.73	10.73	6.38	47	3139892	8.91	10.73	10.73	6.38	56	3139476	9	10.7	9	45	N/A					
			3139891-LT	162	273	273	162	21.2	3139892-LT	226	273	273	162	25.6	3139476-LT	229	272	229	20.5						
2" LS15 1.88 (48)	15,000 (1034)	1502 (MxF)	P505482	5.5	10.73	10.73	5.5	60	3139901	10.9	10.73	10.73	5.5	80	3139905	10.9	10.7	10.9	61	3144094	10.97	10.73	10.73	10.91	82
		1502 (MxM)	P505482-LT	140	273	273	140	27.2	3139901-LT	277	256	256	140	36.5	3139905-LT	277	272	277	27.7	3144094-LT	279	273	273	277	37.5
2" LS15 1.88 (48)	15,000 (1034)	1502 (MxF)	N/A						P527697						3139477	10.9	10.7	10.9	70	3139903	10.97	10.73	10.73	10.91	90
			1502 (FxM)	N/A						N/A						3139477-LT	277	272	277	31.8	3139903-LT	279	273	273	277
2" LS20 1.88 (48)	20,000 1379	2002 (MxF)	N/A						CF						3144570	10.9	10.81	12.42	78	CF					
		2002 (MxM)	N/A						N/A						3144571	12.51	10.91	12.52	87	3144572	12.5	10.9	10.9	12.5	108
3" TS15 2.75 (70)	7,500 (517)	Threaded	N/A						N/A						P524218	12.88	16.42	12.88	102	CF					
															P524218-LT	327	417	327	46.4						
3" TS15 2.75 (70)	15,000 (1034)	1502 (MxF)	N/A						P505409	14.4	16.4	16.4	7.9	145	P505325	14.5	16.4	14.4	129	P505410	14.4	16.4	16.4	14.6	168
		1502 (MxM)	N/A						P505409-LT	366	417	417	201	65.9	P505325-LT	368	417	366	58.7	P505410-LT	366	417	417	371	76.1
3" TS20 3 (76)	20,000 (1379)	2002 (MxF)	N/A						N/A						P505326	14.4	16.4	14.4	143	P505411	14.4	16.4	16.4	14.6	181
															P505326-LT	366	417	366	64.8	P505411-LT	366	417	417	371	82.2
4" TS10 3.88 (98)	10,000 (690)	1002 (MxF)	N/A						CF						P516094	16.1	18.1	16.2	198	CF					
		1002 (MxM)	N/A						N/A						P516094-LT	409	460	411	89.8	CF					
4" XHTL 3.5 (89)	10,000 (690)	1502 (MxF)	N/A						CF						P516093	15.9	18.1	16.2	209	CF					
															P516093-LT	404	460	411	95						
			N/A						CF						3130501	20.4	21.2	20.4	338	CF					
																518	538	518	154						