
	<h2>PIPING CLASSES</h2> <p>TECHNICAL SPECIFICATION</p>	MET ET 023 - Alternativa 2012
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CLASS AK1A (See Notes)

CODE	SERVICE	MATERIALS	CLASS/FACING	C.A.	PRESSURE & TEMPERATURE LIMITS
ASME B31.3	Process fluids, Demineralized Water Low pressure, Soda diluida	TP 316L SS PIPING, TP 316LSS SW&THDD VALVE TP 316 SS FLGD VALVES	CLASS 150 RF	0,08	16kg/cm2g at -29°to38°C 12kg/cm2g at 150°C Max. Temp. 6.5kg/cm2g at 399°C Max. Temp.


Diameter 1	Diameter 2	Rating	Sch 1	Facing	Material	Commodity	Mx Temp [C]	Description	Notes
1/2"	1 1/2"	1/2"	1 1/2"	800	MSW-B16.11	ASTM A182-GRADE F316L		EXTENDED BODY GATE VALVE,Mat:STAINLESS STEEL,Body Mat Std:ASTM A182-GRADE F316L,Class:800,Ends:Male socket ASME B16.11,Manufacture:FORGED,2nd. End:FemaleThreaded - NPT ASME B1.20.1,Standard:API-602,End to End:MANUF. STD,Design:OUTSIDE SCREW AND YOKE,Bonnet:WELDED,Bonnet Mat:ASTM A182-GRADE F316L,Stem:RISING,Disc:SOLID WEDGE,Trim:API Nr. 10,Pack Mat:FLEXIBLE GRAPHITE,Oper:NON RISING HANDWHEEL	1
1/2"	1 1/2"			800	SWE	ASTM A182-GRADE F316L		COMPACT GATE VALVE,Mat:STAINLESS STEEL,Body Mat Std:ASTM A182-GRADE F316L,Class:800,Ends:Socket weld - ASME B16.11,Manufacture:FORGED,Standard:API-602,End to End:MANUF. STD,Design:OUTSIDE SCREW AND YOKE,Bonnet:BOLTED,Bonnet Mat:ASTM A182-GRADE F316L,Stem:RISING,Disc:SOLID WEDGE,Trim:API Nr. 10,Pack Mat:FLEXIBLE GRAPHITE,Gasket:SPIRAL WOUND 316SS W/NON ASBESTOS,Oper:NON RISING HANDWHEEL	
1/2"	1 1/2"			800	SWE	ASTM A182-GRADE F316L		GATE VALVE FULL PORT,Mat:STAINLESS STEEL,Body Mat Std:ASTM A182-GRADE F316L,Class:800,Ends:Socket weld - ASME B16.11,Manufacture:FORGED,Standard:API-602,End to End:MANUF. STD,Design:OUTSIDE SCREW AND YOKE,Bonnet:BOLTED,Bonnet Mat:ASTM A182-GRADE F316L,Stem:RISING,Disc:SOLID WEDGE,Trim:API Nr. 10,Pack Mat:FLEXIBLE GRAPHITE,Gasket:SPIRAL WOUND 316SS W/NON ASBESTOS,Oper:NON RISING HANDWHEEL. Requirements:CAR SEALED	
1/2"	1 1/2"			800	SWE	ASTM A182-GRADE F316L		GATE VALVE FULL PORT,Mat:STAINLESS STEEL,Body Mat Std:ASTM A182-GRADE F316L,Class:800,Ends:Socket weld - ASME B16.11,Manufacture:FORGED,Standard:API-602,End to End:MANUF. STD,Design:OUTSIDE SCREW AND YOKE,Bonnet:BOLTED,Bonnet Mat:ASTM A182-GRADE F316L,Stem:RISING,Disc:SOLID WEDGE,Trim:API Nr. 10,Pack Mat:FLEXIBLE GRAPHITE,Gasket:SPIRAL WOUND 316SS W/NON ASBESTOS,Oper:NON RISING HANDWHEEL	

	<h2 style="margin: 0;">PIPING CLASSES</h2> <p style="margin: 0;">TECHNICAL SPECIFICATION</p>	MET ET 023 - Alternativa 2012
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CLASS AK1A (See Notes)

CODE	SERVICE	MATERIALS	CLASS/FACING	C.A.	PRESSURE & TEMPERATURE LIMITS
ASME B31.3	Process fluids, Demineralized Water Low pressure, Soda diluida	TP 316L SS PIPING, TP 316LSS SW&THDD VALVE, TP 316 SS FLGD VALVES	CLASS 150 RF	0,08	16kg/cm2g at -29°to38°C 12kg/cm2g at 150°C Max. Temp. 6.5kg/cm2g at 399°C Max. Temp.


Diameter 1	Diameter2	Rating	Sch 1	Facing	Material	Commodity	Mx Temp [C]	Description	Notes
2"	10"	150		RFFE	ASTM A351- GRADE CF8M			GATE VALVE FULL PORT,Mat:STAINLESS STEEL,Body Mat Std:ASTM A351-GRADE CF8M,Class:150,Ends:Raised Face,Manufacture:CAST,Standard:API-600,End to End:ASME-B16.10,Flange Ends Acc to:ASME-B16.5,Finish:Serrated concentric 125 µin (3,2 µm) to 250 µin (6,3 µm) Ra Max-MSS SP-6,Design:OUTSIDE SCREW AND YOKE,Bonnet:BOLTED,Bonnet Mat:ASTM A351-GRADE CF8M,Stem:RISING,Disc:FLEXIBLE WEDGE,Trim:API Nr. 10,Pack Mat:FLEXIBLE GRAPHITE,Gasket:SPIRAL WOUND 316SS W/NON ASBESTOS,Oper:NON RISING HANDWHEEL	
2"	10"	150		RFFE	ASTM A351- GRADE CF8M			GATE VALVE FULL PORT,Mat:STAINLESS STEEL,Body Mat Std:ASTM A351-GRADE CF8M,Class:150,Ends:Raised Face,Manufacture:CAST,Standard:API-600,End to End:ASME-B16.10,Flange Ends Acc to:ASME-B16.5,Finish:Serrated concentric 125 µin (3,2 µm) to 250 µin (6,3 µm) Ra Max-MSS SP-6,Design:OUTSIDE SCREW AND YOKE,Bonnet:BOLTED,Bonnet Mat:ASTM A351-GRADE CF8M,Stem:RISING,Disc:FLEXIBLE WEDGE,Trim:API Nr. 10,Pack Mat:FLEXIBLE GRAPHITE,Gasket:SPIRAL WOUND 316SS W/NON ASBESTOS,Oper:NON RISING HANDWHEEL, Add. Requirements:CAR SEALED.	
1/2"	1 1/2"	300		SWE	ASTM A182- GRADE F316L		232.2	BALL VALVE REDUCED BORE,Mat:STAINLESS STEEL,Body Mat Std:ASTM A182-GRADE F316L,Class:300,Ends:Socket weld - ASME B16.11,Manufacture:FORGED,Standard:ASME-B16.34,End to End:MANUF. STD,Stem:ANTI BLOW OUT DESIGN,Stem Mat:AISI 316,Seat Mat:REINFORCED TEFLON,Disc:BALL,Disc mat:AISI 316,Pack Mat:REINFORCED TEFLON,Oper:LEVER,Service cond:FIRE SAFE ACC.TO API 607	4
2"	8"	150		RFFE	ASTM A351- GRADE CF8M		232.2	BALL VALVE LONG PATTERN REDUCED BORE,Mat:STAINLESS STEEL,Body Mat Std:ASTM A351-GRADE CF8M,Class:150,Ends:Raised Face,Manufacture:CAST,Standard:ASME-B16.34,End to End:ASME-B16.10,Flange Ends Acc to:ASME-B16.5,Finish:Serrated concentric 125 µin (3,2 µm) to 250 µin (6,3 µm) Ra Max-MSS SP-6,Stem Mat:AISI 316,Seat Mat:REINFORCED TEFLON,Disc:BALL,Disc mat:AISI 316,Pack Mat:REINFORCED TEFLON,Oper:LEVER,Service cond:FIRE SAFE ACC.TO API 607	4

	<h2 style="margin: 0;">PIPING CLASSES</h2> <p style="margin: 0;">TECHNICAL SPECIFICATION</p>	MET ET 023 - Alternativa 2012
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CLASS AK1A (See Notes)

CODE	SERVICE	MATERIALS	CLASS/FACING	C.A.	PRESSURE & TEMPERATURE LIMITS
ASME B31.3	Process fluids, Demineralized Water Low pressure, Soda diluida	TP 316L SS PIPING, TP 316LSS SW&THDD VALVE TP 316 SS FLGD VALVES	CLASS 150 RF	0,08	16kg/cm2g at -29°to38°C 12kg/cm2g at 150°C Max. Temp. 6.5kg/cm2g at 399°C Max. Temp.


Diameter 1	Diameter2	Rating	Sch 1	Facing	Material	Commodity	Mx Temp [C]	Description	Notes
1/2"	1 1/2"	800		SWE	ASTM A182- GRADE F316L			GLOBE VALVE STD. PORT,Mat:STAINLESS STEEL,Body Mat Std:ASTM A182-GRADE F316L,Class:800,Ends:Socket weld - ASME B16.11,Manufacture:FORGED,Standard:ASME-B16.34,End to End:MANUF. STD,Design:OUTSIDE SCREW AND YOKE,Bonnet:BOLTED,Bonnet Mat:ASTM A182-GRADE F316L,Stem:RISING,Disc:LOOSE SOLID TYPE DISC,Trim:API Nr. 10,Pack Mat:FLEXIBLE GRAPHITE,Gasket:SPIRAL WOUND 316SS W/NON ASBESTOS,Oper:RISING HANDWHEEL	
2"	8"	150		RFFE	ASTM A351- GRADE CF8M			GLOBE VALVE,Mat:STAINLESS STEEL,Body Mat Std:ASTM A351-GRADE CF8M,Class:150,Ends:Raised Face,Manufacture:CAST,Standard:ASME-B16.34,End to End:ASME-B16.10,Flange Ends Acc to:ASME-B16.5,Finish:Serrated concentric 125 µin (3,2 µm) to 250 µin (6,3 µm) Ra Max-MSS SP-6,Design:OUTSIDE SCREW AND YOKE,Bonnet:BOLTED,Bonnet Mat:ASTM A351-GRADE CF8M,Stem:RISING,Disc:LOOSE SOLID PLUG TYPE DISC,Trim:API Nr. 10,Pack Mat:FLEXIBLE GRAPHITE,Gasket:SPIRAL WOUND 316SS W/NON ASBESTOS,Oper:RISING HANDWHEEL	
1/2"	1 1/2"	600		SWE	ASTM A351- GRADE CF3M			CHECK VALVE SWING TYPE,Mat:STAINLESS STEEL,Body Mat Std:ASTM A351-GRADE CF3M,Class:600,Ends:Socket weld - ASME B16.11,Manufacture:CAST,Standard:ASME-B16.34,End to End:MANUF. STD,Cover:BOLTED,Cover Mat:ASTM A351-GRADE CF3M,Trim:API Nr. 10,Gasket:SPIRAL WOUND 316SS W/NON ASBESTOS	
2"	10"	150		RFTBE	ASTM A351- GRADE CF8M			SWING CHECK VALVE, TYPE,Mat:C.STEEL,Body Mat Std:ASTM A351-GRADE CF8M,Class:150,Ends:Raised Face,Standart: BS-1868,Flange Ends Acc to:ASME-B16.5,Finish:Serrated concentric 125 µin (3,2 µm) to 250 µin (6,3 µm) Ra Max-MSS SP-6 - End to End: ASME B16.10 ,Cover:BOLTED,Cover Mat:ASTM A351-GRADE CF8M,Seat ring: RENEWABLE,Accesories:NO,By-Pass:NO,Type of Disc:SWING TYPE,Body seat ring:AISI 316,HingePin:AISI 316,Disc:A182 F-316,Gasket:SPIRAL WOUND 316SS W/NON ASBESTOS.	
1/2"	1 1/2"	150		RFFE	ASTM A182- GRADE F316L			SOCKET WELD. FLANGE,Mat:STAINLESS STEEL,Std:ASTM A182-GRADE F316L,Class:150,Face:Raised Face,Dim.Acc. To:ASME-B16.5,Manufacture:FORGED,Finish:Serrated concentric 125 µin (3,2 µm) to 250 µin (6,3 µm) Ra Max-MSS SP-6,Bored:to match,Thick/SCH:10S	2
2"	10"	150		RFFE	ASTM A182- GRADE F316L			WELDING NECK FLANGE,Mat:STAINLESS STEEL,Std:ASTM A182-GRADE F316L,Class:150,Face:Raised Face,Dim.Acc. To:ASME-B16.5,Manufacture:FORGED,Finish:Serrated concentric 125 µin (3,2 µm) to 250 µin (6,3 µm) Ra Max-MSS SP-6,Bored:Beveled ASME B16.25 to match,Thick/SCH:10S	

	<h2 style="margin: 0;">PIPING CLASSES</h2> <p style="margin: 0;">TECHNICAL SPECIFICATION</p>	MET ET 023 - Alternativa 2012
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CLASS AK1A (See Notes)

CODE	SERVICE	MATERIALS	CLASS/FACING	C.A.	PRESSURE & TEMPERATURE LIMITS
ASME B31.3	Process fluids, Demineralized Water Low pressure, Soda diluida	TP 316L SS PIPING, TP 316LSS SW&THDD VALVE TP 316 SS FLGD VALVES	CLASS 150 RF	0,08	16kg/cm2g at -29°to38°C 12kg/cm2g at 150°C Max. Temp. 6.5kg/cm2g at 399°C Max. Temp.


Diameter 1	Diameter2	Rating	Sch 1	Facing	Material	Commodity	Mx Temp [C]	Description	Notes
1"	1 1/2"	150		RFFE	ASTM A182-GRADE F316L			SOCKET WELD. FLANGE, Mat: STAINLESS STEEL, Std: ASTM A182-GRADE F316L, Class: 150, Face: Raised Face, Dim. Acc. To: ASME-B16.5, Manufacture: FORGED, Finish: Serrated concentric 125 µin (3,2 µm) to 250 µin (6,3 µm) Ra Max-MSS SP-6, Bored: to match, Thick/SCH: 10S, Additional Requirements: WITH JACK SCREW	6
2"	10"	150		RFFE	ASTM A182-GRADE F316L			WELDING NECK FLANGE, Mat: STAINLESS STEEL, Std: ASTM A182-GRADE F316L, Class: 150, Face: Raised Face, Dim. Acc. To: ASME-B16.5, Manufacture: FORGED, Finish: Serrated concentric 125 µin (3,2 µm) to 250 µin (6,3 µm) Ra Max-MSS SP-6, Bored: Beveled ASME B16.25 to match, Thick/SCH: 10S, Additional Requirements: WITH JACK SCREW	6
1/2"	1 1/2"	300		RFFE	ASTM A182-GRADE F316L			SOCKET WELD. FLANGE, Mat: STAINLESS STEEL, Std: ASTM A182-GRADE F316L, Class: 300, Face: Raised Face, Dim. Acc. To: ASME-B16.5, Manufacture: FORGED, Finish: Serrated concentric 125 µin (3,2 µm) to 250 µin (6,3 µm) Ra Max-MSS SP-6, Bored: to match, Thick/SCH: 10S	5
2"	10"	300		RFFE	ASTM A182-GRADE F316L			WELDING NECK FLANGE, Mat: STAINLESS STEEL, Std: ASTM A182-GRADE F316L, Class: 300, Face: Raised Face, Dim. Acc. To: ASME-B16.5, Manufacture: FORGED, Finish: Serrated concentric 125 µin (3,2 µm) to 250 µin (6,3 µm) Ra Max-MSS SP-6, Bored: Beveled ASME B16.25 to match, Thick/SCH: 10S	5
1/2"	10"	150		RFFE	ASTM A182-GRADE F316L			BLIND FLANGE, Mat: STAINLESS STEEL, Std: ASTM A182-GRADE F316L, Class: 150, Face: Raised Face, Dim. Acc. To: ASME-B16.5, Manufacture: FORGED, Finish: Serrated concentric 125 µin (3,2 µm) to 250 µin (6,3 µm) Ra Max-MSS SP-6	
2"	10"	300		RFFE	ASTM A182-GRADE F316L			WELDING NECK ORIFICE FLANGE SET (w/ 0.5 inch THD Taps), Mat: STAINLESS STEEL, Std: ASTM A182-GRADE F316L, Class: 300, Face: Raised Face, Dim. Acc. To: ASME-B16.36, Manufacture: FORGED, Finish: Serrated concentric 125 µin (3,2 µm) to 250 µin (6,3 µm) Ra Max-MSS SP-6, Bored: Beveled ASME B16.25 to match, Thick/SCH: 10S, Additional Requirements: To use with gasket thickness = 4.5 mm	
3/4"	10"	150		RFTBE	ASTM A240-GRADE TP316			SPECTACLE BLANK, Mat: STAINLESS STEEL, Std: ASTM A240-GRADE TP316, Ends: For use with raised face or flat face flanges, Class: 150, Finish: Serrated concentric 125 µin (3,2 µm) to 250 µin (6,3 µm) Ra Max-MSS SP-6, Dim. Acc. to: MET-ET-063	
1"	10"	300		RFTBE	ASTM A240-GRADE TP316			SPECTACLE BLANK, Mat: STAINLESS STEEL, Std: ASTM A240-GRADE TP316, Ends: For use with raised face or flat face flanges, Class: 300, Finish: Serrated concentric 125 µin (3,2 µm) to 250 µin (6,3 µm) Ra Max-MSS SP-6, Dim. Acc. to: MET-ET-063	

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CLASS AK1A (See Notes)

CODE	SERVICE	MATERIALS	CLASS/FACING	C.A.	PRESSURE & TEMPERATURE LIMITS
ASME B31.3	Process fluids, Demineralized Water Low pressure, Soda diluida	TP 316L SS PIPING, TP 316LSS SW&THDD VALVE TP 316 SS FLGD VALVES	CLASS 150 RF	0,08	16kg/cm2g at -29°to38°C 12kg/cm2g at 150°C Max. Temp. 6.5kg/cm2g at 399°C Max. Temp.


Diameter 1	Diameter2	Rating	Sch 1	Facing	Material	Commodity	Mx Temp [C]	Description	Notes
1/2"	1 1/2"	3000		FTE-NPT	ASTM A182-GRADE F316L			CAP,Mat:STAINLESS STEEL,Std:ASTM A182-GRADE F316L,End:Female Threaded - NPT ASME B1.20.1,Class:3000,Dim.Acc. To:ASME-B16.11,Manufacture:FORGED	
1/2"	1 1/2"	3000		SWE	ASTM A182-GRADE F316L			CAP,Mat:STAINLESS STEEL,Std:ASTM A182-GRADE F316L,End:Socket weld - ASME B16.11,Class:3000,Dim.Acc. To:ASME-B16.11,Manufacture:FORGED	
2"	10"		S-10S	BE	ASTM A403-WP316L-S			CAP,Mat:STAINLESS STEEL,Std:ASTM A403-WP316L-S,End:Beveled ASME B16.25,Sch:10S,Dim.Acc. To:ASME-B16.9,Manufacture:WROUGHT SEAMLESS	
1/2"	1 1/2"			MTE-NPT	ASTM A182-GRADE F316L			HEXAGONAL HEAD PLUG,Mat:STAINLESS STEEL,Std:ASTM A182-GRADE F316L,End:Male Threaded - NPT ASME B1.20.1,Class:3000,Dim.Acc. To:ASME-B16.11,Manufacture:FORGED	
3/4"	1 1/2"	1/2"	1"	3000	SWE	ASTM A182-GRADE F316L		REDUCING COUPLING,Mat:STAINLESS STEEL,Std:ASTM A182-GRADE F316L,End:Socket weld - ASME B16.11,Class:3000,Dim.Acc. To:ASME-B16.11,Manufacture:FORGED	
3/4"	1 1/2"	1/2"	1"		PE	ASTM A182-GRADE F316L		REDUCING INSERT,Mat:STAINLESS STEEL,Std:ASTM A182-GRADE F316L,End:Plain,Class:3000,Dim.Acc. To:MSS-SP-79,Manufacture:FORGED,Second End:Socket weld end - ASME B16.11	
3/4"	1 1/2"	1/2"	1"	S-10S	PE	ASTM A312-GRADE TP316L		CONCENTRIC SWAGE,Mat:STAINLESS STEEL,Std:ASTM A312-GRADE TP316L,End:Plain,Sch:10S,Dim.Acc. To:MSS-SP-95,Manufacture:SEAMLESS	
2"	3"	1/2"	1 1/2"	S-10S	BE	ASTM A312-GRADE TP316L		CONCENTRIC SWAGE,Mat:STAINLESS STEEL,Std:ASTM A312-GRADE TP316L,End:Beveled ASME B16.25,Sch:10S,Dim.Acc. To:MSS-SP-95,Manufacture:SEAMLESS,Second End:Plain end,2nd.Thick-SCH:10S	
2 1/2"	10"	2"	8"	S-10S	BE	ASTM A403-WP316L-W		CONCENTRIC REDUCER,Mat:STAINLESS STEEL,Std:ASTM A403-WP316L-W,End:Beveled ASME B16.25,Sch:10S,Dim.Acc. To:ASME-B16.9,Manufacture:WROUGHT WELDED,Add. Requirements:LONGITUDINAL WELDED DOUBLE BUTT	
3/4"	1 1/2"	1/2"	1"	S-10S	PE	ASTM A312-GRADE TP316L		ECCENTRIC SWAGE,Mat:STAINLESS STEEL,Std:ASTM A312-GRADE TP316L,End:Plain,Sch:10S,Dim.Acc. To:MSS-SP-95,Manufacture:SEAMLESS	
2"	3"	1/2"	1 1/2"	S-10S	BE	ASTM A312-GRADE TP316L		ECCENTRIC SWAGE,Mat:STAINLESS STEEL,Std:ASTM A312-GRADE TP316L,End:Beveled ASME B16.25,Sch:10S,Dim.Acc. To:MSS-SP-95,Manufacture:SEAMLESS,Second End:Plain end,2nd.Thick-SCH:10S	
2 1/2"	10"	2"	8"	S-10S	BE	ASTM A403-WP316L-W		ECCENTRIC REDUCER,Mat:STAINLESS STEEL,Std:ASTM A403-WP316L-W,End:Beveled ASME B16.25,Sch:10S,Dim.Acc. To:ASME-B16.9,Manufacture:WROUGHT WELDED,Add. Requirements:LONGITUDINAL WELDED DOUBLE BUTT	
1/2"	1 1/2"	3000		SWE	ASTM A182-GRADE F316L			COUPLING,Mat:STAINLESS STEEL,Std:ASTM A182-GRADE F316L,End:Socket weld - ASME B16.11,Class:3000,Dim.Acc. To:ASME-B16.11,Manufacture:FORGED	

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CLASS AK1A (See Notes)

CODE	SERVICE	MATERIALS	CLASS/FACING	C.A.	PRESSURE & TEMPERATURE LIMITS
ASME B31.3	Process fluids, Demineralized Water Low pressure, Soda diluida	TP 316L SS PIPING, TP 316LSS SW&THDD VALVE TP 316 SS FLGD VALVES	CLASS 150 RF	0,08	16kg/cm2g at -29°to38°C 12kg/cm2g at 150°C Max. Temp. 6.5kg/cm2g at 399°C Max. Temp.

Diameter 1	Diameter2	Rating	Sch 1	Facing	Material	Commodity	Mx Temp [C]	Description	Notes
3"	10"	1/2"	1 1/2"		PE	ASTM A182-GRADE F316L		HALF COUPLING, Mat: STAINLESS STEEL, Std: ASTM A182-GRADE F316L, End: Socket weld - ASME B16.11, Class: 3000, Dim. Acc. To: ASME-B16.11, Manufacture: FORGED	
1/2"	1 1/2"	3000		SWE	ASTM A182-GRADE F316L			45 ELBOW, Mat: STAINLESS STEEL, Std: ASTM A182-GRADE F316L, End: Socket weld - ASME B16.11, Class: 3000, Dim. Acc. To: ASME-B16.11, Manufacture: FORGED	
2"	10"		S-10S	BE	ASTM A403-WP316L-W			45 LONG RADIUS ELBOW, Mat: STAINLESS STEEL, Std: ASTM A403-WP316L-W, End: Beveled ASME B16.25, Sch: 10S, Dim. Acc. To: ASME-B16.9, Manufacture: WROUGHT WELDED, Add. Requirements: LONGITUDINAL WELDED DOUBLE BUTT	
1/2"	1 1/2"	3000		SWE	ASTM A182-GRADE F316L			90 ELBOW, Mat: STAINLESS STEEL, Std: ASTM A182-GRADE F316L, End: Socket weld - ASME B16.11, Class: 3000, Dim. Acc. To: ASME-B16.11, Manufacture: FORGED	
2"	10"		S-10S	BE	ASTM A403-WP316L-W			90 LONG RADIUS ELBOW, Mat: STAINLESS STEEL, Std: ASTM A403-WP316L-W, End: Beveled ASME B16.25, Sch: 10S, Dim. Acc. To: ASME-B16.9, Manufacture: WROUGHT WELDED, Add. Requirements: LONGITUDINAL WELDED DOUBLE BUTT	
1/2"	1 1/2"	3000		SWE	ASTM A182-GRADE F316L			TEE, Mat: STAINLESS STEEL, Std: ASTM A182-GRADE F316L, End: Socket weld - ASME B16.11, Class: 3000, Dim. Acc. To: ASME-B16.11, Manufacture: FORGED	
2"	10"		S-10S	BE	ASTM A403-WP316L-W			TEE, Mat: STAINLESS STEEL, Std: ASTM A403-WP316L-W, End: Beveled ASME B16.25, Sch: 10S, Dim. Acc. To: ASME-B16.9, Manufacture: WROUGHT WELDED, Add. Requirements: LONGITUDINAL WELDED DOUBLE BUTT	
3/4"	1 1/2"	1/2"	1"	3000	SWE	ASTM A182-GRADE F316L		REDUCING TEE, Mat: STAINLESS STEEL, Std: ASTM A182-GRADE F316L, End: Socket weld - ASME B16.11, Class: 3000, Dim. Acc. To: ASME-B16.11, Manufacture: FORGED	
2"	2"	1/2"	1 1/2"		BE	ASTM A182-GRADE F316L		SOCKOLET, Mat: STAINLESS STEEL, Std: ASTM A182-GRADE F316L, End: Socket weld - ASME B16.11, Class: 3000, Dim. Acc. To: MSS-SP-97, Manufacture: FORGED	
3"	10"	2"	8"	S-STD	BE	ASTM A182-GRADE F316L		WELDOLET, Mat: STAINLESS STEEL, Std: ASTM A182-GRADE F316L, End: Beveled ASME B16.25, Class: STANDARD, Dim. Acc. To: MSS-SP-97, Manufacture: FORGED, 2nd. Thick-SCH: 10S	
1/2"	1 1/2"		S-10S	PE	ASTM A312-GRADE TP316L			NIPPLE, Mat: STAINLESS STEEL, Std: ASTM A312-GRADE TP316L, End: Plain, Sch: 10S, Dim. Acc. To: ASME-B36.19M, Manufacture: SEAMLESS	
1/2"	1 1/2"		S-80S	MTE-NPT	ASTM A312-GRADE TP316L			NIPPLE, Mat: STAINLESS STEEL, Std: ASTM A312-GRADE TP316L, End: Male Threaded - NPT ASME B1.20.1, Sch: 80S, Dim. Acc. To: ASME-B36.19M, Manufacture: SEAMLESS	
1/2"	1 1/2"	1/2"	1 1/2"	S-80S	MTE-NPT	ASTM A312-GRADE TP316L		NIPPLE, Mat: STAINLESS STEEL, Std: ASTM A312-GRADE TP316L, End: Male Threaded - NPT ASME B1.20.1, Sch: 80S, Dim. Acc. To: ASME-B36.19M, Manufacture: SEAMLESS, Second End: Plain end, Length: 100 mm	

	<h2>PIPING CLASSES</h2> <p>TECHNICAL SPECIFICATION</p>	MET ET 023 - Alternativa 2012
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CLASS AK1A (See Notes)

CODE	SERVICE	MATERIALS	CLASS/FACING	C.A.	PRESSURE & TEMPERATURE LIMITS
ASME B31.3	Process fluids, Demineralized Water Low pressure, Soda diluida	TP 316L SS PIPING, TP 316LSS SW&THDD VALVE TP 316 SS FLGD VALVES	CLASS 150 RF	0,08	16kg/cm2g at -29°to38°C 12kg/cm2g at 150°C Max. Temp. 6.5kg/cm2g at 399°C Max. Temp.

Diameter 1	Diameter2	Rating	Sch 1	Facing	Material	Commodity	Mx Temp [C]	Description	Notes
1/2"	1 1/2"	1/2"	1 1/2"	S-80S	MTE-NPT	ASTM A312-GRADE TP316L		NIPPLE,Mat:STAINLESS STEEL,Std:ASTM A312-GRADE TP316L,End:Male Threaded - NPT ASME B1.20.1,Sch:80S,Dim.Acc. To:ASME-B36.19M,Manufacture:SEAMLESS,Second End:Plain end,Length:150 mm	
1/2"	10"	150		RFFE				SPIRAL-WOUND GASKET TYPE,Mat. Std:N/A,Class:150,Thickness:4.5 mm,Dim. Acc. to:ASME-B16.20,Winding:316 S.S.,Ext. ring:CARBON STEEL,Filler:FLEXIBLE GRAPHITE,Flange Std:ASME-B16.5	
1/2"	10"	300		RFFE				SPIRAL-WOUND GASKET TYPE,Mat. Std:N/A,Class:300,Thickness:4.5 mm,Dim. Acc. to:ASME-B16.20,Winding:316 S.S.,Ext. ring:CARBON STEEL,Filler:FLEXIBLE GRAPHITE,Flange Std:ASME-B16.5	5
1/2"	10"	150		RFFE	ASTM A 193 Gr. B8 CL2/ASTM A 194 Gr. 8			Stud Bolt threaded full length, with two heavy hexagonal nuts,Resist:-,Grp. Mat:STAINLESS STEEL,Mat Std:ASTM A 193 Gr. B8 CL2/ASTM A 194 Gr. 8,Acc. to:ANSI B 18.2.1 / ANSI B 18.2.2 HEAVY SERIES,Protection:No Coated,Tolerance:2A/2B (ANSI B1.1),Thre:UNC	
1/2"	10"	300		RFFE	ASTM A 193 Gr. B8 CL2/ASTM A 194 Gr. 8			Stud Bolt threaded full length, with two heavy hexagonal nuts,Resist:-,Grp. Mat:STAINLESS STEEL,Mat Std:ASTM A 193 Gr. B8 CL2/ASTM A 194 Gr. 8,Acc. to:ANSI B 18.2.1 / ANSI B 18.2.2 HEAVY SERIES,Protection:No Coated,Tolerance:2A/2B (ANSI B1.1),Thre:UNC	5
1/2"	1 1/2"		S-10S	PE	ASTM A312-GRADE TP316L			PIPE,Mat:STAINLESS STEEL,Std:ASTM A312-GRADE TP316L,Ends:Plain,Sch:10S,Dim.Acc. To:ASME-B36.19M,Manufacture:SEAMLESS	
2"	10"		S-10S	BE	ASTM A312-GRADE TP316L			PIPE,Mat:STAINLESS STEEL,Std:ASTM A312-GRADE TP316L,Ends:Beveled ASME B16.25,Sch:10S,Dim.Acc. To:ASME-B36.19M,Manufacture:ELECTRIC FUSION WELDED,Add. Requirements:LONGITUDINAL WELDED DOUBLE BUTT	