



decal españa

**SPECIFICATION TABLE**

Project No.

No.

Sheet

Rev.

Date

CODE	PRODUCT	RATE	BASE MATERIAL	TEMP. PROJ. °C	PRESSURE PROJ. Kg/cm <sup>2</sup>	SPEC.
AD	ADDITIVES	150#	SS	70	*	1S1
AI1	AERIAL FIRE WATER ( WITH TANK COOLING )	150#	CS. GALV. / CS+EPOXI	60	*	1C2
AP	POTABLE WATER	150#	CS. GALV. / CS+EPOXI	40	*	1C2
AA	ANHIDROUS ALCOHOL	150#	CS	70	*	1C1
AH	DEHYDRATED ALCOHOL	150#	CS	70	*	1C1
GA	GASOLINE	150#	CS	70	*	1C1
GO	DIESEL OIL	150#	CS	70	*	1C1
AI2	AERIAL FIRE WATER ( WITHOUT TANK COOLING )	150#	CS	40	*	1C3
LGE	FIRE FOAM	150#	CS	60	*	1C1
AB	RAW WATER	150#	CS	40	*	1C1
FO	FUEL OIL	150#	CS	70	*	1C1
LCO	LIGHT CYCLE OIL	150#	CS	70	*	1C1
AT	THERMAL OIL	300#	CS	300	*	2C1
HCO	PIPELINES	300#	CS	70	*	2C1

 decal españa			<b>PIPING MATERIAL SPECIFICATION</b>							<b>ESPEC. 1C1</b>		
Project No.										No.		
			P (kgf/cm <sup>2</sup> )	19,6	19,6	19,2	17,7	15,8	COR. ALO.: 1,3 mm		Sheet	Rev
			T (oC)	-29	-38	50	100	150	THER. TRE.: NO		Date	
ITEM	DIAMETER		RATING	ENDS	MATERIAL		BONNET	OTHER INDICATIONS		CODE N°		
	FROM	TO			BODY	INTERNALS						
VALVES	BV	1/2"	1 1/2"	800#	THR.NPT	CS	AISI 316	NOTE 3	PTFE , FB, FS		BV008	
	BV	2"	6"	150#	RF	CS	AISI 316	NOTE 2	PTFE , FB, FS,		BV002	
	BV	8"	16"	150#	RF	CS	AISI 316	NOTE 2	PTFE , FB, GEAR OPERATED.FS,		BV004	
	GTV	1/2"	1 1/2"	800#	SW	CS	13%Cr	BOLTED	ASET		GTV001	
	GTV	2"	10"	150#	RF	CS	13%Cr	BOLTED(2)	ASET		GTV002	
	GTV	12"	20"	150#	RF	CS	13%Cr	BOLTED(2)	ASET, GEAR OPERATED.		GTV004	
	GV	1/2"	1 1/2"	800#	SW	CS	13%Cr	BOLTED	ASET		GV001	
	GV	2"	8"	150#	RF	CS	13%Cr	BOLTED	ASET		GV002	
	CV	1/2"	1.1/2"	800#	SW	CS	13%Cr	BOLTED	PISTON TYPE(1)		CV001	
	CV	2"	16"	150#	RF	CS	13%Cr	BOLTED	SWING TYPE (1)		CV002	
CV	2"	16"	150#	BF	CS	13%Cr	-	WAFFER TYPE(4)		CV008		
ITEM	DIAMETER		RAT. OR WALL THICKNESS	ENDS	MATERIAL	FABRICATI ON	OTHER INDICATIONS		CODE N°			
FITTINGS	1/2"	1 1/2"	3000 #	SW	CS	FORG	ASTM A. A105, ANSI B 16.11					
	2"	6"	SCH. 40	BW	CS	-	ASTM A 234 Gr. WPB. ANSI B 16.9					
	8"	20"	SCH. 20	BW	CS	-	ASTM A 234 Gr. WPB. ANSI B 16.9					
	1/2"	1 1/2"	3000 #	THR.NPT	CS	FORG	ASTM A 105, ANSI B16.11 (3)					
UNION						NOT USE						
FLANGES	SWF	1/2"	3/4"	300#	RF	CS	FORG	ASTM A 105. ANSI B 16.5		SWF003		
	SWF	1"	1.1/2"	150#	RF	CS	FORG	ASTM A 105. ANSI B 16.5		SWF001		
	SOF	2"	20"	150#	RF	CS	FORG	ASTM A 105. ANSI B 16.5		SOF001		
	BLF	1/2"	20"	150#	RF	CS	FORG	ASTM A 105. ANSI B 16.5		BLF001		
PIPES	1/2"	11/2"	SCH 80	PE	CS	SMS	API 5L GR.B;ANSI B36.10		PIP004			
	2"	6"	SCH 40	BE	CS	SMS	API 5L GR.B;ANSI B36.10		PIP003			
	8"	20"	SCH 20	BE	CS	WELD	API 5L GR.B;ANSI B36.10		PIP001			
STUDS AND JOINTS	- STUD, ASTM A 193 Gr. B7, DIM. ANSI B 18.2.1, THREAD ANSI B 1.1 C/ NUTS									ST001		
	HEXAGONAL,HEAVY DUTY, ASTM A 194 Gr. 2H, ANSI B 18.2.2, THREAD ANSI B 1.1											
	- JOINT OF HYDRAULIC PAPER WITHOUT ASBESTOS ESP.1/16" ,150# FR, ANSI B16.5 , ANSI B16.10, SIMILAR									JT001		
	KLINGERSIL C-4430 DE KLINGER.											
	- JOINT OF HYDRAULIC PAPER WITHOUT ASBESTOS ESP.1/16" ,300# FR, ANSI B16.5 , ANSI B16.10, SIMILAR									JT002		
KLINGERSIL C-4430 DE KLINGER.												
MISCELLANEOUS	DN <=1.1/2"- Y FILTER, BODY ASTM A 216 GR WCB, SCREEN AISI 304. HOLES 1 MM, CL600#, SW									YF001		
	ANSI B16.11, WITH CLEANING FLANGE.											
	DN>= 2" - FTCE, CARBON STEEL, SCREEN AISI 304. HOLES 3,2MM, CL.150# FR. ANSI B16.5 SIMILAR									BKF001		
	SFAY F-2,											
	BRONZE HOSE CONNECTION, FEMALE THREADED NPT, COMPRESSOR RACORD TYPE									HC001		
	<b>NOTES:</b> 1) HORIZONTAL MOUNTED CHECK VALVE.											
	2) FLANGE ISO 5211 IF AUTOMATED											
	3) ONLY FOR INSTRUMENT AND DRAIN, WHEN REQUIRED.											
4) ONLY WITH SPACE LIMITATIONS WHEN REQUIRED.												



decal españa

Project No.

## PIPING MATERIAL SPECIFICATION

**ESPEC. 1C1**

No.

Sheet

Rev.

Date


INSERT HEADER	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"	36"	40"	
40"																								
36"																								
32"																								
28"																								
24"																								
20"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	T						
18"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	T							
16"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	T								
14"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	SI	T									
12"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	T										
10"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	T											
8"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	T												
6"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	T													
5"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	T														
4"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	T															
3"	SKT	SKT	SKT	SKT	SKT	SI	SI	T																
2 1/2"	SKT	SKT	SKT	SKT	SKT	SI	T																	
2"	SKT	SKT	SKT	SKT	SKT	T																		
1 1/2"	SKT	SKT	SKT	SKT	T																			
1 1/4"	SKT	SKT	SKT	T																				
1"	SKT	SKT	T																					
3/4"	SKT	T																						
1/2"	T																							

**SIMBOLOGY:**

T - TEE

SKT - SOCKOLET

SI - STRAIGHT INSERT. REINFORCEMENT B31.3 Y B31.4

 decal españa			<b>PIPING MATERIAL SPECIFICATION</b>								<b>ESPEC. 1C2</b>	
Project No.											No.	
			P (kgf/cm <sup>2</sup> )	19,6	19,6	19,2	17,7	15,8		COR. ALO.: 1,3 mm	Sheet	Rev
			T (oC)	-29	38	50	100	150		THER. TRE.: NO	Date	
ITEM	DIAMETER		RATING	ENDS	MATERIAL		BONNET	OTHER INDICATIONS		CODE N°		
	FROM	TO			BODY	INTERNALS						
VALVES	BV	1/2"	1 1/2"	800#	THR.NPT	CS	AISI 316	NOTE 2	PTFE , FB, FS		BV008	
	BV	2"	6"	150#	RF	CS	AISI 316	NOTE 2	PTFE , FB, FS		BV002	
	BV	8"	16"	150#	RF	CS	AISI 316	NOTE 2	PTFE , FB , GEAR OPERATED.FS		BV004	
	GTV	1/2"	1 1/2"	800#	SW	CS	13%Cr	BOLTED	ASTE		GTV001	
	GTV	2"	10"	150#	RF	CS	13%Cr	BOLTED(2)	ASTE		GTV002	
	GTV	12"	16"	150#	RF	CS	13%Cr	BOLTED(2)	ASTE, GEAR OPERATED		GTV004	
	BFV	11/2"	6"	150#	BF	CS	13%Cr	NOTE 2	BIEX. MET-MET SEAT		BV001	
	BFV	8"	20"	150#	BF	CS	13%Cr	NOTE 2	BIEX. GEAR OPERATED. MET-MET SEAT		BV002	
	GV	2"	8"	150#	RF	CS	13%Cr	BOLTED	ASTE		GV002	
	CV	1/2"	2 1/2"	800#	SW	CS	13%Cr	BOLTED	PISTON TYPE(1)		CV001	
	CV	3"	18"	150#	RF	CS	13%Cr	BOLTED	SWING TYPE(1)		CV002	
CV	3"	18"	150#	BF	CS	13%Cr	^	WAFFER TYPE(4)		CV008		
ITEM	DIAMETER		RAT.OR WALL THICKNESS	ENDS	MATERIAL	FABRICATI ON	OTHER INDICATIONS		CODE N°			
	FROM	TO										
FITTINGS	1/2"	2 1/2"	3000 #	THR.NPT	CS	CAST	ASTM A105, GALV, ANSI B 16.11					
	3"	6"	SCH. 40	BW	CS	FORG	ASTM A 234 Gr. WPB, INT. EPOXI COATING, ANSI B 16					
	8"	20"	SCH. 20	BW	CS	FORG	ASTM A 234 Gr. WPB, INT. EPOXI COATING, ANSI B 16					
	1/2"	1 1/2"	3000#	THR.NPT	CS	FORG	ASTM A105, GALV, ANSI B 16.11					
UNION	1/2"	21/2"	3000 #	THR.NPT	CS	CAST	ASTM A105, GALV, ANSI B 16.11		UN004			
FLANGES	SWF	1/2"	21/2"	150#	RF	CS GALV.	FORJ.	ASTM A105,GALV. ANSI B 16.5		SWF001		
	SOF	3"	20"	150 #	RF	CS	FORJ.	ASTM A105, GALV, ANSI B 16.5		SOF001		
	BLF	1/2"	21/2"	150 #	RF	CS GALV.	FORJ.	ASTM A 105, GALV, ANSI B 16.5		BLF004		
	BLF	3"	20"	150 #	RF	CS	FORJ.	ASTM A 105, INT.EPOXI COATING, ANSI B 16.5		BLF005		
PIPES	1/2"	2 1/2"	SCH 80	THR.NPT	CS GALV.	SMS	API 5L Gr. B, GALVANIZED		PIP010			
	3"	6"	SCH 40	BE	CS+EPOXI	SMS	API 5L Gr. B, INT. EPOXI COATING.		PIP007			
	8"	20"	SCH 20	BE	CS+EPOXI	WELD	API 5L Gr. B, INT. EPOXI.COATING		PIP006			
STUDS AND JOINTS	- STUD, ASTM A 193 Gr. B7, DIM. ANSI B 18.2.1, THREAD ANSI B 1.1 C/ NUTS									ST001		
	HEXAGONAL, HEAVY DUTY, ASTM A 194 Gr. 2H, ANSI B 18.2.2, THREAD ANSI B 1.1											
	- JOINT OF HYDRAULIC PAPER WITHOUT ASBESTOS ESP.1/16" , 150# FR, ANSI B16.5 , ANSI B16.10, SIMILAR									JT001		
	KLINGERSIL C-4430 DA KLINGER.											
MISCELLANEOUS	<b>DN &gt;=3"- Y FILTER, BODY ASTM A216 GR.WCB, 150# FR, SCREEN AISI 304, HOLES 1,5mm</b>									YF003		
	WITH CLEANING FLANGE											
	<b>NOTES :</b> 1) HORIZONTAL MOUNTED CHECK VALVE											
	2) FLANGE ISO 5211 IF AUTOMATED											
	3) ONLY FOR INSTRUMENT AND DRAIN, WHEN REQUIRED											
	4) ONLY WITH SPACE LIMITATIONS, WHEN REQUIRED											



decal españa

Project No.

## PIPING MATERIAL SPECIFICATION

**ESPEC. 1C2**

No.

Sheet

Rev.

Date


INSERT HEADER	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"	36"	40"	
40"																								
36"																								
32"																								
28"																								
24"																								
20"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	T						
18"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	T							
16"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	T								
14"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	SI	T									
12"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	T										
10"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	T											
8"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	T												
6"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	T													
5"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	T														
4"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	T															
3"	SKT	SKT	SKT	SKT	SKT	SI	SI	T																
2 1/2"	SKT	SKT	SKT	SKT	SKT	SI	T																	
2"	SKT	SKT	SKT	SKT	SKT	T																		
1 1/2"	SKT	SKT	SKT	SKT	T																			
1 1/4"	SKT	SKT	SKT	T																				
1"	SKT	SKT	T																					
3/4"	SKT	T																						
1/2"	T																							

**SIMBOLOGY:**

T - TEE

SKT - SOCKOLET

SI - STRAIGHT INSERT. REINFORCEMENT B31.3 Y B31.4

 decal españa			<b>PIPING MATERIAL SPECIFICATION</b>							<b>ESPEC. 1C3</b>		
Project No.										No.		
			P (kgf/cm <sup>2</sup> )	19,6	19,6	19,2	17,7	15,8	COR. ALO.: 1,3 mm		Sheet	Rev
			T (oC)	-29	38	50	100	150	THER. TRE.: NO		Date	
ITEM	DIAMETER		RATING	ENDS	MATERIAL		BONNET	OTHER INDICATIONS		CODE N°		
	FROM	TO			BODY	INTERNALS						
VALVES	BV	1/2"	1 1/2"	800#	THR.NPT	CS	AISI 316	NOTE 3	PTFE , FB, FS		BV001	
	BV	2"	6"	150#	RF	CS	AISI 316	NOTE 2	PTFE , FB, FS		BV002	
	BV	8"	16"	150#	RF	CS	AISI 316	NOTE 2	PTFE , FB , GEAR OPERATED.FS		BV003	
	GTV	1/2"	1 1/2"	800#	SW	CS	13%Cr	BOLTED	VARE		GTV001	
	GTV	2"	10"	150#	RF	CS	13%Cr	BOLTED(2)	VARE		GTV002	
	GTV	12"	16"	150#	RF	CS	13%Cr	BOLTED(2)	VARE, GEAR OPERATED.		GTV003	
	BFV	11/2"	6"	150#	BF	CS	AISI 316	NOTE 2	BIEX. MET-MET SEAT		BFV001	
	BFV	8"	20"	150#	BF	CS	AISI 316	NOTE 2	BIEX. GEAR OPERATED. MET-MET SEAT		BFV002	
	GV	2"	8"	150#	RF	CS	13%Cr	BOLTED	VARE		GV001	
	GV	1/2"	2 1/2"	800#	SW	CS	13%Cr	BOLTED	PISTON TYPE (1)		GV001	
	CV	3"	18"	150#	RF	CS	13%Cr	BOLTED	SWING TYPE (1)		CV002	
	CV	3"	18"	150#	BF	CS	13%Cr		WAFFER TYPE (4)		CV003	
ITEM	DIAMETER		RAT. OR WALL THICKNESS	ENDS	MATERIAL	FABRICATI ON	OTHER INDICATIONS		CODE N°			
FITTINGS	1/2"	1 1/2"	3000 #	THR.NPT	CS	FORG	ASTM A105, ANSI B 16.11					
	2"	6"	SCH. 40	BW	CS	FORG	ASTM A 234 Gr. WPB, ANSI B 16.9					
	8"	20"	SCH. 20	BW	CS	FORG	ASTM A 234 Gr. WPB, ANSI B 16.9					
UNION						NOT USE						
FLANGES	SWF	1/2"	11/2"	150 #	RF	CS	FORG	ASTM A105, ANSI B 16.5		SWF001		
	SOF	2"	20"	150 #	RF	CS	FORG	ASTM A105, ANSI B 16.5		SOF001		
	BLF	1/2"	20"	150 #	RF	CS	FORG	ASTM A 105, ANSI B 16.5		BLF001		
PIPES	1/2"	1 1/2"	SCH 80	PE	CS	SMS	API 5L Gr. B, ANSI B36.10		PIP004			
	3"	6"	SCH 40	BE	CS	SMS	API 5L Gr. B, ANSI B36.10.		PIP003			
	8"	20"	SCH 20	BE	CS	WELD	API 5L Gr. B, ANSI B36.10.		PIP002			
STUDS AND JOINTS	- STUD, ASTM A 193 Gr. B7, DIM. ANSI B 18.2.1, THREAD ANSI B 1.1 C/ NUTS									ST001		
	HEXAGONAL, HEAVY DUTY, ASTM A 194 Gr. 2H, ANSI B 18.2.2, THREAD ANSI B 1.1											
	- JOINT OF HYDRAULIC PAPER WITHOUT ASBESTO ESP.1/16" , 150#, FR, ANSI B16.5 , ANSI B16.10, SIMILAR									JT001		
	KLINGERSIL C-4430 DA KLINGER.											
MISCELLANEOUS	<b>DN &gt;=3"- Y FILTER, BODY ASTM A216 GR.WCB, 150# FR, SCREEN AISI 304, HOLES 1,5mm</b>									YF003		
	WITH CLEANING FLANGE											
	<b>NOTES :</b> 1) HORIZONTAL MOUNTED CHECK VALVE											
	2) FLANGE ISO 5211 IF AUTOMATED											
	3) ONLY FOR INSTRUMENT AND DRAIN, WHEN REQUIRED											
	4) ONLY WITH SPACE LIMITATIONS, WHEN REQUIRED											



decal españa

Project No.

## PIPING MATERIAL SPECIFICATION

**ESPEC. 1C3**

No.

Sheet

Rev.

Date


INSERT	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"	36"	40"	
<b>HEADER</b>																								
40"																								
36"																								
32"																								
28"																								
24"																								
20"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	T						
18"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	T							
16"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	T								
14"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	SI	T									
12"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	T										
10"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	T											
8"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	T												
6"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	T													
5"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	T														
4"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	T															
3"	SKT	SKT	SKT	SKT	SKT	SI	SI	T																
2 1/2"	SKT	SKT	SKT	SKT	SKT	SI	T																	
2"	SKT	SKT	SKT	SKT	SKT	T																		
1 1/2"	SKT	SKT	SKT	SKT	T																			
1 1/4"	SKT	SKT	SKT	T																				
1"	SKT	SKT	T																					
3/4"	SKT	T																						
1/2"	T																							

**SIMBOLOGY:**

T - TEE

SKT - SOCKOLET

SI - STRAIGHT INSERT. REINFORCEMENT B31.3 Y B31.4

 decal españa			<b>PIPING MATERIAL SPECIFICATION</b>								<b>ESPEC. 2C1</b>	
Project No.											No.	
			P (kgf/cm <sup>2</sup> )	51,1	51,1	46,4	43,8	38,7	34,5	COR. ALO.: 1,3 mm	Sheet	Rev
			T (oC)	-29	38	100	200	300	400	THER. TRE.: NO	Date	
ITEM	DIAMETER		RATING	ENDS	MATERIAL		BONNET	OTHER INDICATIONS		CODE N°		
	FROM	TO			BODY	INTERNALS						
VALVES	BV	1/2"	1 1/2"	800#	THR.NPT	CS	AISI 316	NOTE 3	PTFE , FB, FS		BV008	
	BV	2"	4"	300#	RF	CS	AISI 316	NOTE 2	PTFE , FB, FS,		BV003	
	BV	6"	16"	300#	RF	CS	AISI 316	NOTE 2	PTFE , FB, GEAR OPERATED.FS,		BV005	
	GTV	1/2"	1 1/2"	800#	SW	CS	13%Cr	BOLTED	ASTE		GTV001	
	GTV	2"	8"	300#	RF	CS	13%Cr	BOLTED(2)	ASTE		GTV003	
	GTV	10"	20"	300#	RF	CS	13%Cr	BOLTED(2)	ASTE, GEAR OPERATED.		GTV003	
	GV	1/2"	1 1/2"	800#	SW	CS	13%Cr	BOLTED	ASTE		GV001	
	GV	2"	6"	300#	RF	CS	13%Cr	BOLTED	ASTE		GV003	
	GV	8"	8"	300#	RF	CS	13%Cr	BOLTED	ASTE, GEAR OPERATED.		GV003	
	CV	1/2"	1.1/2"	800#	SW	CS	13%Cr	BOLTED	PISTON TYPE (1)		CV001	
	CV	2"	16"	300#	RF	CS	13%Cr	BOLTED	SWING TYPE (1)		CV003	
	CV	2"	16"	300#	BF	CS	13%Cr	-	WAFFER TYPE (4)		CV010	
ITEM	DIAMETER		RAT. OR WALL THICKNESS	ENDS	MATERIAL	FABRICATI ON	OTHER INDICATIONS		CODE N°			
	FROM	TO										
FITTINGS		1/2"	1 1/2"	3000 #	SW	CS	FORG.	ASTM A. A105, ANSI B 16.11				
		2"	6"	SCH. 40	BW	CS	-	ASTM A 234 Gr. WPB. ANSI B 16.9				
		8"	20"	SCH. 20	BW	CS	-	ASTM A 234 Gr. WPB. ANSI B 16.9				
		1/2"	1 1/2"	3000 #	THR.NPT	CS	FORG.	ASTM A 105, ANSI B16.11 (3)				
UNION								NOT USE				
FLANGES	SWF	1/2"	3/4"	300#	RF	CS	FORG.	ASTM A 105. ANSI B 16.5		SWF003		
	SWF	1"	1.1/2"	600#	RF	CS	FORG.	ASTM A 105. ANSI B 16.5		SWF004		
	SOF	2"	20"	300#	RF	CS	FORG.	ASTM A 105. ANSI B 16.5		SOF003		
	BLF	1/2"	20"	300#	RF	CS	FORG.	ASTM A 105. ANSI B 16.5		BLF003		
PIPES		1/2"	11/2"	SCH 80	PE	CS	SMS	API 5L GR.B;ANSI B36.10		PIP004		
		8"	20"	SCH 40	BE	CS	SMS	API 5L GR.B;ANSI B36.10		PIP003		
STUDS AND JOINTS	- STUD, ASTM A 193 Gr. B7, DIM. ANSI B 18.2.1, THREAD ANSI B 1.1 C/ NUTS									ST002		
	HEXAGONAL, HEAVY DUTY, ASTM A 194 Gr. 2H, ANSI B 18.2.2, THREAD ANSI B 1.1											
	- JOINT OF HYDRAULIC PAPER WITHOUT ASBESTO.1/16",300#, FR, ANSI B16.5 , ANSI B16.10, SIMILAR									JT002		
	KLINGERSIL C-4430 DE KLINGER.											
	- JOINT OF HYDRAULIC PAPER WITHOUT ASBESTO ESP.1/16" , 600#, FR, ANSI B16.5 , ANSI B16.10, SIMILAR									JT002		
KLINGERSIL C-4430 DE KLINGER.												
MISCELLANEOUS	DN <=1.1/2" - Y FILTERO , BODY ASTM A216 GR WCB, SCREEN AISI 304. HOLES 1MM, 600#, SW									YF003		
	ANSI B16.11, C/ CLEANING FLANGE											
	DN >= 2" - FTCE, CARBON STEEL, SCREEN AISI 304. HOLES 3,2MM, 300#, FR. ANSI B16.5 SIMILAR									BKF001		
	SFAY F-2,											
	BRONZE HOSE CONNECTION, FEMALE THREADED NPT, COMPRESSOR RACORD TYPE									HC001		
	NOTES : 1) HORIZONTAL MOUNTED CHECK VALVE											
	2) FLANGE ISO 5211 IF AUTOMATED											
	3) ONLY FOR INSTRUMENT AND DRAIN, WHEN REQUIRED											
4) ONLY WITH SPACE LIMITATIONS, WHEN REQUIRED												





decal españa

Project No.

# PIPING MATERIAL SPECIFICATION

ESPEC. 2C1

No.

Sheet

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INSERT HEADER	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"	36"	40"
40"																							
36"																							
32"																							
28"																							
24"																							
20"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	T					
18"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	T						
16"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	SI	SI	T							
14"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	SI	T								
12"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	SI	T									
10"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	SI	T										
8"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	SI	T											
6"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	SI	T												
5"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	SI	T													
4"	SKT	SKT	SKT	SKT	SKT	SI	SI	SI	T														
3"	SKT	SKT	SKT	SKT	SKT	SI	SI	T															
2 1/2"	SKT	SKT	SKT	SKT	SKT	SI	T																
2"	SKT	SKT	SKT	SKT	SKT	T																	
1 1/2"	SKT	SKT	SKT	SKT	T																		
1 1/4"	SKT	SKT	SKT	T																			
1"	SKT	SKT	T																				
3/4"	SKT	T																					
1/2"	T																						

**SIMBOLOGY:**

T - TEE

SKT - SOCKOLET

SI - STRAIGHT INSERT. REINFORCEMENT B31.3 Y B31.4

 decal españa				<b>PIPING MATERIAL SPECIFICATION</b>								<b>ESPEC. 1S1</b>	
Project No.												No.	
				P (kgf/cm <sup>2</sup> )	15,9	15,9	15,3	13,2	12	11	COR. ALO.: NULE	Sheet	Rev
				T (oC)	-29	38	50	100	150	200	THER. TRE.: NO	Date	
ITEM	DIAMETER		RATING	ENDS	MATERIAL		BONNET	OTHER INDICATIONS		CODE N°			
	FROM	TO			BODY	INTERNALS							
VALVES	BV	1/2"	3/4"	800#	THR.NPT	AISI 316	AISI 316	NOTE 2	PTFE, FB, FS		BV006		
	BV	1"	6"	150#	RF	AISI 316	AISI 316	---	PTFE, FB, FS		BV007		
	GTV	1/2"	3/4"	800#	SW	AISI 316	AISI 316	BOLTED	ASTE		GTV006		
	GTV	1"	6"	150#	RF	AISI 316	AISI 316	BOLTED	ASTE		GTVV007		
	GV	1/2"	3/4"	800#	SW	AISI 316	AISI 316	BOLTED	ASTE		GV006		
	GV	1"	6"	150#	RF	AISI 316	AISI 316	BOLTED	ASTE		GV007		
	CV	1/2"	3/4"	800#	SW	AISI 316	AISI 316	BOLTED	PISTON TYPE (1)		CV004		
CV	1"	6"	150#	RF	AISI 316	AISI 316	BOLTED	SWING TYPE (1)		CV005			
CV	1"	6"	150#	BF	AISI 316	AISI 316	BOLTED	WAFFER TYPE (3)		CV009			
ITEM	DIAMETER		RAT. OR WALL THICKNESS	ENDS	MATERIAL	FABRICATI ON	OTHER INDICATIONS		CODE N°				
	FROM	TO											
FITTINGS		1/2"	3/4"	3000#	THR.NPT	AISI 316	FORG.	ASTM A182 Gr.F316, ANSI B16.11					
		1"	1 1/2"	3000#	SW	AISI 316	---	ASTM A403 Gr.WP316, ANSI B16.9					
		2"	6"	SCH 10S	BW	AISI 316	---	ASTM A403 Gr.WP316, ANSI B16.9					
UNION	-	-	-	-	-	-	-	NOT USE		-			
FLANGES	SWF	1/2"	3/4"	300#	RF	AISI 316	FORG.	ASTM A 182 Gr.F316; ANSI B 16.5		SWF005			
	SWF	1"	1 1/2"	150#	RF	AISI 316	FORG.	ASTM A 182 Gr.F316; ANSI B 16.5		SWF002			
	SOF	2"	6"	150#	RF	AISI 316	FORG.	ASTM A 182 Gr.F316; ANSI B 16.5		SOF002			
	BLF	1/2"	6"	150#	RF	CS+316L	FORG.	ASTM A 182 Gr.F316; ANSI B 16.5		BLF005			
PIPES		1/2"	1 1/2"	SCH 80S	PE	AISI 316	SMS	ASTM A312 Gr.TP316, ANSI B36.19.		PIP012			
		2"	6"	SCH 10S	BE	AISI 316	SMS	ASTM A312 Gr.TP316, ANSI B36.19.		PIP011			
STUDS AND JOINTS	-STUD, ASTM A 193 Gr. B8, DIM. ANSI B 18.2.1, THREAD ANSI B 1.1 C/ NUTS									ST002			
	HEXAGONAL, HEAVY DUTY, ASTM A 194 Gr.8, ANSI B 18.2.2, THREAD ANSI B 1.1												
	- JOINT OF HYDRAULIC PAPER WITHOUT ASBESTO, FLG 150 #, FR. ESP. 1/16" SIMILAR KLINGERSIL C-4430 (KLINGER).									JT001			
	- JOINT OF HYDRAULIC PAPER WITHOUT ASBESTO, FLG 300 #, FR. ESP. 1/16" SIMILAR KLINGERSIL C-4430 (KLINGER).									JT002			
MISCELLANEOUS	DN <= 1.1/2"- Y FILTERO , BODY A351 GR CF8M, SCREEN AISI 304, HOLE 1mm, 600#, SW ANSI B16.11,									YF005			
	WITH CLEANING FLANGE, SIMILAR SARCO FIG. 16.												
	BRONZE HOSE CONNECTION, FEMALE THREADDE NPT, COMPRESSOR RACORD TYPE									HC001			
	NOTES : 1) HORIZONTAL MOUNTED CHECK VALVE												
	2) FLANGE ISO 5211 IF AUTOMATED												
	3) ONLY FOR INSTRUMENT AND DRAIN, WHEN REQUIRED												
	4) ONLY WITH SPACE LIMITATIONS, WHEN REQUIRED												



decal españa

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## PIPING MATERIAL SPECIFICATION

**ESPEC. 1S1**

No.

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INSERT	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	32"	36"	40"	
HEADER																								
40"																								
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10"																								
8"																								
6"	SKL	SKL	SKL	SKL	SKL	SI	SI	SI	SI	SI	T													
5"	SKL	SKL	SKL	SKL	SKL	SI	SI	SI	SI	T														
4"	SKL	SKL	SKL	SKL	SKL	SI	SI	SI	T															
3"	SKL	SKL	SKL	SKL	SKL	SI	SI	T																
2 1/2"	SKL	SKL	SKL	SKL	SKL	SI	T																	
2"	SKL	SKL	SKL	SKL	SKL	T																		
1 1/2"	SKL	SKL	SKL	SKL	T																			
1 1/4"	SKL	SKL	SKL	T																				
1"	SKL	SKL	T																					
3/4"	SKL	T																						
1/2"	T																							

**SIMBOLOGY:**

T - TEE

SKT - SOCKOLET

SI - STRAIGHT INSERT. REINFORCEMENT B31.3 Y B31.4

CODE	DESCRIPTION
BFV001	BUTTERFLY VALVE, BIEXCENTRICAL, WAFFER 150#, RF, ANSI B16.5, BODY A216 GR WCB, INTERNALS 13% Cr, METAL-METAL SEAT SIMILAR TO TYCO HI-SEAL
BFV002	BUTTERFLY VALVE, BIEXCENTRICAL, WAFFER 150#, RF, ANSI B16.5, BODY A216 GR WCB, INTERNALS 13% Cr, METAL-METAL SEAT WHEEL AND GEAR, SIMILAR TO TYCO HI-SEAL
BLF001	BLIND FLANGE, 150#, RF, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.5
BLF002	BLIND FLANGE, 150#, RF, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.5
BLF003	BLIND FLANGE, 300#, RF, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.5
BLF004	BLIND FLANGE, 150#, RF, CARBON STEEL, FORGED, ASTM A105, GALVANIZED, DIMENSIONS ANSI B16.5
BLF005	BLIND FLANGE, 150#, RF, CARBON STEEL, FORGED, ASTM A105, INTERNALLY COATED WITH EPOXI 80 MICRONS, DIMENSIONS ANSI B16.5
BLF006	BLIND FLANGE, 150#, RF, CARBON STEEL, FORGED, ASTM A105, INTERNALLY COATED WITH 2 MM AISI A316, DIMENSIONS ANSI B16.5
BV001	BALL VALVE, 800#, FULL BORE, FIRE SAFE, BODY ASTM A105, INTERNALS AISI 316, SEAT PTFE, ENDS SW, ANSI B16.11, HANDLE BS5351, SIMILAR TO KITZ F14A
BV002	BALL VALVE, 150#, FULL BORE, FIRE SAFE, BODY ASTM A216 GR WCB, INTERNALS AISI 316, SEAT PTFE, FLANGED ANSI B16.5, RF HANDLE, BS5351, SIMILAR TO KITZ F14A
BV003	BALL VALVE, 300#, FULL BORE, FIRE SAFE, BODY ASTM A216 GR WCB, INTERNALS AISI 316, SEAT PTFE, FLANGED ANSI B16.5, RF PALANCA, PATRON B16.34, SIMILAR A KITZ F14A
BV004	BALL VALVE, 150#, FULL BORE, FIRE SAFE, BODY ASTM A216 GR WCB, INTERNALS AISI 316, SEAT PTFE, FLANGED ANSI B16.5, RF WHEEL AND GEAR, B16.34, SIMILAR TO KITZ F14A
BV005	BALL VALVE, 300#, FULL BORE, FIRE SAFE, BODY ASTM A216 GR WCB, INTERNALS AISI 316, SEAT PTFE, FLANGE ANSI B16.5, RF WHEEL AND GEAR, B16.34, SIMILAR TO KITZ F14A
BV006	BALL VALVE, 800#, FULL BORE, FIRE SAFE, BODY ASTM A479 316L, INTERNALS AISI 316, SEAT PTFE, ENDS SW, ANSI B16.11, HANDLE BS5351, SIMILAR TO KITZ HB
BV007	BALL VALVE, 150#, FULL BORE, FIRE SAFE, BODY ASTM A351CF8M, INTERNALS AISI 316, SEAT PTFE, FLANGED ANSI B16.5, RF, HANDLE ANSI B16.34, SIMILAR TO KITZ F14A
BV008	BALL VALVE, 800#, FULL BORE, FIRE SAFE, BODY ASTM A105, INTERNALS AISI 316, SEAT PTFE, ENDS THREADED NPT, ANSI B1.20.1 BS5351, SIMILAR TO KITZ HB
BV009	BALL VALVE, 800#, FULL BORE, FIRE SAFE, BODY ASTM A479 316L, INTERNALS AISI 316, SEAT PTFE, ENDS THREADED NPT, ANSI B1.20.1 BS5351, SIMILAR TO KITZ HB
CAP001	CAP, BEWELLED END , BW, CARBON STEEL, ASTM A234 WPB, DIMENSIONS ANSI B16.9
CAP002	CAP, BEWELLED END, BW, STAINLESS STEEL, ASTM A403 GR WP 316L, DIMENSIONS ANSI B16.9
CAP003	CAP, BEWELLED END, BW, CARBON STEEL, ASTM A234 WPB, INTERNALLY COATED WITH EPOXI 80 MICRONS, DIMENSIONS ANSI B16.9
CAP004	CAP, SW, 3000#, CARBON STEEL, FORGED, ASTM 105, DIMENSIONS ANSI B16.11
CAP005	CAP, SW, 3000#, CARBON STEEL, FORGED, ASTM 105, GALVANIZED, DIMENSIONS ANSI B16.11
CAP006	CAP, SW, 3000#, STAINLESS STEEL, FORGED, ASTM 182 GR F316L, DIMENSIONS ANSI B16.11
CAP007	CAP, THREADED, THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM 105, DIMENSIONS ANSI B16.11

CODE	DESCRIPTION
CAP008	CAP, THREADED, THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM 105, GALVANIZED, DIMENSIONS ANSI B16.11
CAP009	CAP, THREADED, THREAD NPT, ANSI B1.20.1, 3000#, STAINLESS STEEL, FORGED, ASTM 182 GR F316L, DIMENSIONS ANSI B16.11
CO001	COUPLING, SW, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
CO002	COUPLING, SW, 3000#, CARBON STEEL, FORGED, ASTM A105, GALVANIZED, DIMENSIONS ANSI B16.11
CO003	COUPLING, SW, 3000#, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.11
CO004	COUPLING, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
CO005	COUPLING, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM A105, GALVANIZED, DIMENSIONS ANSI B16.11
CO006	COUPLING, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.11
CRE001	CONCENTRIC REDUCER, BEWELLED ENDS, BW, CARBON STEEL, ASTM A234 GR WPB, DIMENSIONS B16.9
CRE002	CONCENTRIC REDUCER, BEWELLED ENDS, BW, STAINLESS STEEL, ASTM A403 GR WP 316L, DIMENSIONS ANSI B16.9
CRE003	CONCENTRIC REDUCER, BEWELLED ENDS, BW, CARBON STEEL, ASTM A234 GR WPB, INTERNALLY COATED WITH EPOXI 80 MICRONS DIMENSIONS B16.9
CRN001	CONCENTRIC SWAGE NIPPLE, CARBON STEEL, ASTM A234 WPB
CRN002	CONCENTRIC SWAGE NIPPLE, CARBON STEEL, ASTM A234 WPB, GALVANIZED
CRN003	CONCENTRIC SWAGE NIPPLE, STAINLESS STEEL, ASTM A182 GR F316L
CV001	CHECK VALVE, 800#, PISTON TYPE, BODY ASTM A105, INTERNALS 13% Cr, BOLTED BONNET, ENDS SW, ANSI B16.11, BS5352, SIMILAR TO DOUGLAS CHERO
CV002	CHECK VALVE, 150#, SWING TYPE, BODY ASTM A216 GR WCB, INTERNALS 13% Cr, SEAT STELLITE, BOLTED BONNET, FLANGED ANSI B16.5, RF, BS1868, SIMILAR TO SUFA SC01011XU
CV003	CHECK VALVE, 300#, SWING TYPE, BODY ASTM A216 GR WCB, INTERNALS 13% Cr, SEAT STELLITE, BOLTED BONNET, FLANGED ANSI B16.5, RF, BS1868, SIMILAR TO SUFA SC03011XU
CV004	CHECK VALVE, 800#, PISTON TYPE, BODY ASTM A182F316L, INTERNALS AISI 316, BOLTED BONNET, ENDS SW, ANSI B16.11, BS5352 SIMILAR TO DOUGLAS CHERO
CV005	CHECK VALVE, 150#, BODY ASTM A351CF8M, INTERNALS AISI 316, BOLTED BONNET, FLANGED ANSI B16.5, RF, BS 1868, SIMILAR TO SUFA SC0104R
CV006	CHECK VALVE, 800#, PISTON TYPE, BODY ASTM A105, INTERNALS 13% Cr, BOLTED BONNET, ENDS THREADED NPT, ANSI B1.20.1 BS5352, SIMILAR TO DOUGLAS CHERO
CV007	CHECK VALVE, 800#, PISTON TYPE, BODY ASTM A182F316L, INTERNALS AISI 316, BOLTED BONNET, ENDS THREADED NPT, ANSI B1.20.1 BS5352, SIMILAR TO DOUGLAS CHERO
CV008	CHECK VALVE, DOUBLE SWING TYPE, WAFFER, 150#, RF, ANSI B16.5, BODY A216 GR WCB, INTERNALS 13% Cr, METAL-METAL SEAT SIMILAR TO GESTRA BB
CV009	CHECK VALVE, DOUBLE SWING TYPE, WAFFER 150#, RF, ANSI B16.5, BODY A351 GR CF8M, INTERNALS AISI 316, METAL-METAL SEAT SIMILAR TO GESTRA BB

CODE	DESCRIPTION
CV010	CHECK VALVE, DOUBLE SWING TYPE, WAFFER 300#, RF, ANSI B16.5, BODY A351 GR CF8M, INTERNALS AISI 316, METAL-METAL SEAT SIMILAR TO GESTRA BB
E45001	ELBOW 45°, WELDED, BEWELLED ENDS, BW, CARBON STEEL, ASTM A234 GR WPB, DIMENSIONS ANSI B16.9
E45002	ELBOW 45°, WELDED, BEWELLED ENDS, BW, STAINLESS STEEL, ASTM A403 GR WP 316L, DIMENSIONS ANSI B16.9
E45003	ELBOW 45°, WELDED, BEWELLED ENDS, BW, CARBON STEEL, ASTM A234 GR WPB, INTERNALLY COATED WITH EPOXI 80 MICRONS DIMENSIONS ANSI B16.9
E45004	ELBOW 45°, SW, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
E45005	ELBOW 45°, SW, 3000#, CARBON STEEL, FORGED, ASTM A105, GALVANIZED, DIMENSIONS ANSI B16.11
E45006	ELBOW 45°, SW, 3000#, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.11
E45007	ELBOW 45°, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
E45008	ELBOW 45°, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM A105, GALVANIZED DIMENSIONS ANSI B16.11
E90001	ELBOW 90°, LONG RADIUS, WELDED, BEWELLED ENDS, BW, CARBON STEEL, ASTM A234 GR WPB, DIMENSIONS ANSI B16.9
E90002	ELBOW 90°, LONG RADIUS, WELDED, BEWELLED ENDS, BW, STAINLESS STEEL, ASTM A403 GR WP 316L, DIMENSIONS ANSI B16.9
E90003	ELBOW 90°, LONG RADIUS, WELDED, BEWELLED ENDS, BW, CARBON STEEL, ASTM A234 GR WPB, INTERNALLY COATED WITH EPOXI 80 MICRONS, DIMENSIONS ANSI B16.9
E90004	ELBOW 90°, SHORT RADIUS, WELDED, BEWELLED ENDS, BW, CARBON STEEL, ASTM A234 GR WPB, DIMENSIONS ANSI B16.9
E90005	ELBOW 90°, SHORT RADIUS, WELDED, BEWELLED ENDS, BW, STAINLESS STEEL, ASTM A403 GR WP 316L, DIMENSIONS ANSI B16.9
E90006	ELBOW 90°, SHORT RADIUS, WELDED, BEWELLED ENDS, BW, CARBON STEEL, ASTM A234 GR WPB, INTERNALLY COATED WITH EPOXI 80 MICRONS, DIMENSIONS ANSI B16.9
E90007	ELBOW 90°, SW, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
E90008	ELBOW 90°, SW, 3000#, CARBON STEEL, FORGED, ASTM A105, GALVANIZED, DIMENSIONS ANSI B16.11
E90009	ELBOW 90°, SW, 3000#, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.11
E90010	ELBOW 90°, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
E90011	ELBOW 90°, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM A105, GALVANIZED, DIMENSIONS ANSI B16.11
ELB001	ELBOLET, BW, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
ERE001	EXCENTRIC REDUCER, BEWELLED ENDS, BW, CARBON STEEL, ASTM A234 GR WPB, DIMENSIONS ANSI B16.9
ERE002	EXCENTRIC REDUCER, BEWELLED ENDS, BW, STAINLESS STEEL, ASTM A403 GR WP 316L, DIMENSIONS ANSI B16.9

CODE	DESCRIPTION
ERE003	EXCENTRIC REDUCER, BEWELLED ENDS, BW, CARBON STEEL, ASTM A234 GR WPB, INTERNALLY COATED WITH EPOXI 80 MICRONS DIMENSIONS B16.9
ERN001	EXCENTRIC SWAGE NIPPLE, CARBON STEEL, ASTM A234 WPB
ERN002	EXCENTRIC SWAGE NIPPLE, CARBON STEEL, ASTM A234 WPB, GALVANIZED
ERN003	EXCENTRIC SWAGE NIPPLE, STAINLESS STEEL, ASTM A182 GR F316L
F8001	"8" FIGURE, ASTM A283 GR C, 150#, BETWEEN FLANGES ANSI B16.5, RF.
F8002	"8" FIGURE, ASTM A283 GR C, 300#, BETWEEN FLANGES ANSI B16.5, RF.
F8003	"8" FIGURE, ASTM A240F316, 150#, BETWEEN FLANGES ANSI B16.5, RF.
GTV001	GATE VALVE, 800#, BODY ASTM A105, INTERNALS 13% Cr, BOLTED BONNET, ASET, ENDS SW, ANSI B16.11, WHEEL, API 602, SIMILAR TO DOUGLAS CHERO
GTV002	GATE VALVE, 150#, BODY ASTM A216 GR WCB, INTERNALS 13% Cr, SEAT STELLITE, BOLTED BONNET, ASET, FLANGED ANSI B16.5, RF API 600, SIMILAR TO SUFA GA01011XU
GTV003	GATE VALVE, 300#, BODY ASTM A216 GR WCB, INTERNALS 13% Cr, SEAT STELLITE, BOLTED BONNET, ASET, FLANGED ANSI B16.5, RF API 600, SIMILAR TO SUFA GA 03011XU
GTV004	GATE VALVE, 150#, BODY ASTM A216 GR WCB, INTERNALS 13% Cr, SEAT STELLITE, BOLTED BONNET, ASET, FLANGED ANSI B16.5, RF WHEEL AND GEAR, API 600, SIMILAR TO SUFA GA01011XU
GTV005	GATE VALVE, 300#, BODY ASTM A216 GR WCB, INTERNALS 13% Cr, SEAT STELLITE, BOLTED BONNET, ASET, FLANGED ANSI B16.5, RF WHEEL AND GEAR, API 600, SIMILAR TO SUFA GA 03011XU
GTV006	GATE VALVE, 800#, BODY ASTM A182F316L, INTERNALS AISI 316, BOLTED BONNET, ASET, ENDS SW, ANSI B16.11, API 602, SIMILAR TO DOUGLAS CHERO
GTV007	GATE VALVE, 150#, BODY ASTM A351CF8M, INTERNALS AISI 316, BOLTED BONNET, ASET, FLANGED ANSI B16.5, RF, API 600, SIMILAR TO SUFA GA01041R
GTV008	GATE VALVE, 800#, BODY ASTM A105, INTERNALS 13% Cr, BOLTED BONNET, ASET, ENDS THREADED NPT, ANSI B1.20.1, API 602 SIMILAR TO DOUGLAS CHERO
GTV009	GATE VALVE, 800#, BODY ASTM A182F316L, INTERNALS AISI 316, BOLTED BONNET, ASET, ENDS THREADED NPT, ANSI B1.20.1, API 602 SIMILAR TO DOUGLAS CHERO
GV001	GLOBE VALVE, 800#, BODY ASTM A105, INTERNALS 13% Cr, BOLTED BONNET, ASET, ENDS SW, ANSI B16.11, BS5352, SIMILAR TO DOUGLAS CHERO
GV002	GLOBE VALVE, 150#, BODY ASTM A216 GR WCB, INTERNALS 13% Cr, SEAT STELLITE, BOLTED BONNET, ASET, FLANGED, ANSI B16.5, RF BS1873, SIMILAR TO SUFA GL01011XU
GV003	GLOBE VALVE, 300#, BODY ASTM A216 GR WCB, INTERNALS 13% Cr, SEAT STELLITE, BOLTED BONNET, ASET, FLANGED, ANSI B16.5, RF BS1873, SIMILAR TO SUFA GL03011XU
GV004	GLOBE VALVE, 150#, BODY ASTM A216 GR WCB, INTERNALS 13% Cr, SEAT STELLITE, BOLTED BONNET, ASET, FLANGED ANSI B16.5, RF WHEEL AND GEAR, BS1873, SIMILAR TO SUFA GL01011XU
GV005	GLOBE VALVE, 300#, BODY ASTM A216 GR WCB, INTERNALS 13% Cr, SEAT STELLITE, BOLTED BONNET, ASET, FLANGED B16.5, RF WHEEL AND GEAR, BS1873, SIMILAR TO SUFA GL03011XU
GV006	GLOBE VALVE, 800#, BODY ASTM A182F316L, INTERNALS AISI 316, BOLTED BONNET, ASET, ENDS SW, ANSI B16.11, BS5352, SIMILAR TO DOUGLAS CHERO
GV007	GLOBE VALVE, 150#, BODY ASTM A351CF8M, INTERNALS AISI 316, BOLTED BONNET, ASET, FLANGED ANSI B16.5, RF, BS1873, SIMILAR TO SUFA GL01041R

CODE	DESCRIPTION
GV008	GLOBE VALVE, 800#, BODY ASTM A105, INTERNALS 13% Cr, BOLTED BONNET, ASET, THREADED ENDS NPT, ANSI B1.20.1, BS5352 SIMILAR TO DOUGLAS CHERO
GV009	GLOBE VALVE, 800#, BODY ASTM A182F316L, INTERNALS AISI 316, BOLTED BONNET, ASET, ENDS THREADED NPT, ANSI B1.20.1 BS5352, SIMILAR TO DOUGLAS CHERO
HC001	BRONZE HOSE CONNECTION, COMPRESSOR TYPE, FEMALE THREAD NPT
HCO001	HALF COUPLING, SW, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
HCO002	HALF COUPLING, SW, 3000#, CARBON STEEL, FORGED, ASTM A105, GALVANIZED, DIMENSIONS ANSI B16.11
HCO003	HALF COUPLING, SW, 3000#, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.11
HCO004	HALF COUPLING, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
HCO005	HALF COUPLING, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM A105, GALVANIZED, DIMENSIONS ANSI B16.11
HCO006	HALF COUPLING, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.11
JT001	JOINT OF HYDRAULIC PAPER WITHOUT ASBESTO, FOR FLANGES 150#, RF, ANSI B16.5, THICKNESS 1/16", ANSI B16.21, SIMILAR TO KLINGERSIL C-4430
JT002	JOINT OF HYDRAULIC PAPER WITHOUT ASBESTO, FOR FLANGES 300#, RF, ANSI B16.5, THICKNESS 1/16", ANSI B16.21, SIMILAR TO KLINGERSIL C-4430
JT003	JOINT OF HYDRAULIC PAPER WITHOUT ASBESTO, FOR FLANGES 600#, RF, ANSI B16.5, THICKNESS 1/16", ANSI B16.21, SIMILAR TO KLINGERSIL C-4430
NI001	NIPPLE, LENGTH 75 MM, SCH 80, API-5L-GR B
NI002	NIPPLE, LENGTH 75 MM, SCH 80, API-5L-GR B, GALVANIZED
NI003	NIPPLE, LENGTH 75 MM, SCH 80, A312 TP 316L
P001	HEXAGONAL HEAD PLUG, MALE THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
P002	HEXAGONAL HEAD PLUG, MALE THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM A105, GALVANIZED DIMENSIONS ANSI B16.11
P003	HEXAGONAL HEAD PLUG, MALE THREAD NPT, ANSI B1.20.1, 3000#, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.11
PIP001	PIPE, CARBON STEEL, API 5L GR B, SEAMLESS, SCH 20, BEWELLED ENDS, ANSI B16.25, DIMENSIONS ANSI B36.10
PIP002	PIPE, CARBON STEEL, API 5L GR B, WELDED, SCH 20, BEWELLED ENDS, ANSI B16.25, DIMENSIONS ANSI B36.10
PIP003	PIPE, CARBON STEEL, API 5L GR B, SEAMLESS, SCH 40, BEWELLED ENDS, ANSI B16.25, DIMENSIONS ANSI B36.10
PIP004	PIPE, CARBON STEEL, API 5L GR B, SEAMLESS, SCH 80, PLAIN ENDS, ANSI B16.25, DIMENSIONS ANSI B36.10
PIP005	PIPE, CARBON STEEL, API 5L GR B, SEAMLESS, SCH 20, BEWELLED ENDS, ANSI B16.25, DIMENSIONS ANSI B36.10, INTERNALLY COATED WITH EPOXY 80 MICRONS
PIP006	PIPE, CARBON STEEL, API 5L GR B, WELDED, SCH 20, BEWELLED ENDS, ANSI B16.25, DIMENSIONS ANSI B36.10, INTERNALLY COATED WITH EPOXY 80 MICRONS



CODE	DESCRIPTION
PIP007	PIPE, CARBON STEEL, API 5L GR B, SEAMLESS, SCH 40, BEWELLED ENDS, ANSI B16.25, DIMENSIONS ANSI B36.10, INTERNALLY COATED WITH EPOXY 80 MICRONS
PIP008	PIPE, CARBON STEEL, API 5L GR B, SEAMLESS, SCH 40, BEWELLED ENDS, ANSI B16.25, DIMENSIONS ANSI B36.10, GALVANIZED
PIP009	PIPE, CARBON STEEL, API 5L GR B, SEAMLESS, SCH 80, PLAIN ENDS, ANSI B16.25, DIMENSIONS ANSI B36.10, GALVANIZED
PIP010	PIPE, CARBON STEEL, API 5L GR B, SEAMLESS, SCH 40, THREADED ENDS, THREAD NPT, ANSI B1.20.1, DIMENSIONS ANSI B36.10 GALVANIZED
PIP011	PIPE, CARBON STEEL, API 5L GR B, SEAMLESS, SCH 80, THREADED ENDS, THREAD NPT, ANSI B1.20.1, DIMENSIONS ANSI B36.10 GALVANIZED
PIP012	PIPE, STAINLESS STEEL, ASTM A312 GR TP 316L, SEAMLESS, SCH 10S, BEWELLED ENDS, ANSI B16.25, DIMENSIONS ANSI 36.19
PIP013	PIPE, STAINLESS STEEL, ASTM A312 GR TP 316L, SEAMLESS, SCH 80S, PLAIN ENDS, DIMENSIONS ANSI 36.19
RI001	REDUCING INSERT, SW, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
RI002	REDUCING INSERT, SW, 3000#, CARBON STEEL, FORGED, ASTM A105, GALVANIZED, DIMENSIONS ANSI B16.11
RI003	REDUCING INSERT, SW, 3000#, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.11
RI004	REDUCING INSERT, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
RI005	REDUCING INSERT, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM A105, GALVANIZED DIMENSIONS ANSI B16.11
RI006	REDUCING INSERT, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.11
SKT001	SOCKOLET, SW, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
SKT002	SOCKOLET, SW, 3000#, CARBON STEEL, FORGED, ASTM A105, GALVANIZED, DIMENSIONS ANSI B16.11
SKT003	SOCKOLET, SW, 3000#, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.11
SOF001	SLIP ON FLANGE, 150#, RF, CARBON STEEL, FORGD, ASTM A105, DIMENSIONS ANSI B16.5
SOF002	SLIP ON FLANGE, 150#, RF, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.5
SOF003	SLIP ON FLANGE, 300#, RF, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.5
ST001	STUD, ASTM A193 GR B7, ANSI 18.2.1, THREAD ANSI B1.1, WITH TWO HEXAGONAL NUTS ASTM A194 GR 2H, ANSI B18.2.2, THREAD ANSI B1.1
ST002	STUD, ASTM A193 GR B8, ANSI 18.2.1, THREAD ANSI B1.1, WITH TWO HEXAGONAL NUTS ASTM A194 GR 8, ANSI B18.2.2, THREAD ANSI B1.1
SWF001	SOCKET WELD FLANGE, SW, 150#, RF, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.5
SWF002	SOCKET WELD FLANGE, SW, 150#, RF, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.5
SWF003	SOCKET WELD FLANGE, SW, 300#, RF, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.5
SWF004	SOCKET WELD FLANGE, SW, 600#, RF, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.5
SWF005	SOCKET WELD FLANGE, SW, 300#, RF, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.5

CODE	DESCRIPTION
SWF006	SOCKET WELD FLANGE, SW, 150#, RF, CARBON STEEL, FORGED, ASTM A105, GALVANIZED, DIMENSIONS ANSI B16.5
T001	TEE , BEWELLED ENDS, BW, CARBON STEEL, ASTM A234 GR WPB, DIMENSIONS ANSI B16.9
T002	TEE , BEWELLED ENDS, BW, STAINLESS STEEL, ASTM A403 GR WP 316L, DIMENSIONS ANSI B16.9
T003	TEE, BEWELLED ENDS, BW, CARBON STEEL, ASTM A234 GR WPB, INTERNALLY COATED WITH EPOXI 80 MICRONS, DIMENSIONS ANSI B16.9
T004	TEE, SW, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
T005	TEE, SW, 3000#, CARBON STEEL, FORGED, ASTM A105, GALVANIZED, DIMENSIONS ANSI B16.11
T006	TEE, SW, 3000#, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.11
T007	TEE, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
T008	TEE, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM A105, GALVANIZED, DIMENSIONS ANSI B16.11
T009	TEE, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.11
THT001	THREADOLET, THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
TPU001	THREE PIECES UNION, SW, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
TPU002	THREE PIECES UNION, SW, 3000#, CARBON STEEL, FORGED, ASTM A105, GALVANIZED, DIMENSIONS ANSI B16.11
TPU003	THREE PIECES UNION, SW, 3000#, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.11
TPU004	THREE PIECES UNION, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
TPU005	THREE PIECES UNION, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, CARBON STEEL, FORGED, ASTM A105, GALVANIZED, DIMENSIONS ANSI B16.11
TPU006	THREE PIECES UNION, THREADED ENDS, THREAD NPT, ANSI B1.20.1, 3000#, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.11
WD001	WELDOLET, BW, 3000#, CARBON STEEL, FORGED, ASTM A105, DIMENSIONS ANSI B16.11
WD002	WELDOLET, BW, 3000#, CARBON STEEL, FORGED, ASTM A105, GALVANIZED, DIMENSIONS ANSI B16.11
WD003	WELDOLET, BW, 3000#, STAINLESS STEEL, FORGED, ASTM A182 GR F316L, DIMENSIONS ANSI B16.11
YF001	Y FILTER, 600#, BODY A216 GR WCB, SCREEN AISI 304, THICKNESS 0,5 MM, HOLES 1 MM, SW ENDS, ANSI B16.11, SIMILAR TO JC 1001
YF002	Y FILTER, 600#, BODY A216 GR WCB, SCREEN AISI 304, THICKNESS 0,5 MM, HOLES 1 MM, THREADED ENDS NPT ANSI B1.20.1, SIMILAR TO JC 1003
YF003	Y FILTER, 150#, BODY A216 GR WCB, SCREEN AISI 304, THICKNESS 1 MM, HOLES 1,5 MM, FLANGED, ANSI B16.5, RF, SIMILAR TO JC 1000
YF004	Y FILTER, 300#, BODY A216 GR WCB, SCREEN AISI 304, THICKNESS 1 MM, HOLES 1,5 MM, FLANGED, ANSI B16.5, RF, SIMILAR TO JC 1000

CODE	DESCRIPTION
YF005	Y FILTER, 600#, BODY A351CF8M , SCREEN AISI 304, THICKNESS 0,5 MM, HOLES 1 MM, SW ENDS, ANSI B16.11, SIMILAR TO JC 1001
YF006	Y FILTER, 600#, BODY A351CF8M, SCREEN AISI 304, THICKNESS 0,5 MM, HOLES 1 MM, THREADED ENDS NPT ANSI B.1.20.1 SIMILAR TO JC 1003
YF007	Y FILTER, 150#, BODY A351CF8M, SCREEN AISI 304, THICKNESS 1 MM, HOLES 1,5 MM, FLANGED, ANSI B16.5, RF, SIMILAR TO JC 1000