

**PIPE CLASS : B1A**  
**RATING : 300**  
**BASE MATERIAL : CARBON STEEL**  
**CORROSION ALLOWANCE : 1.5 MM**  
**SPECIAL REQUIREMENT :**

**TEMPERATURE (Deg. C) AND PRESSURE ( Kg/Sq. cm g ) RATINGS**

TEMP	-29	38	93	149	204	260	316	343	371	399	427
PRESS	52.02	52.02	47.8	46.05	44.64	42.53	40.07	38.66	37.26	35.5	28.82

**SERVICE**

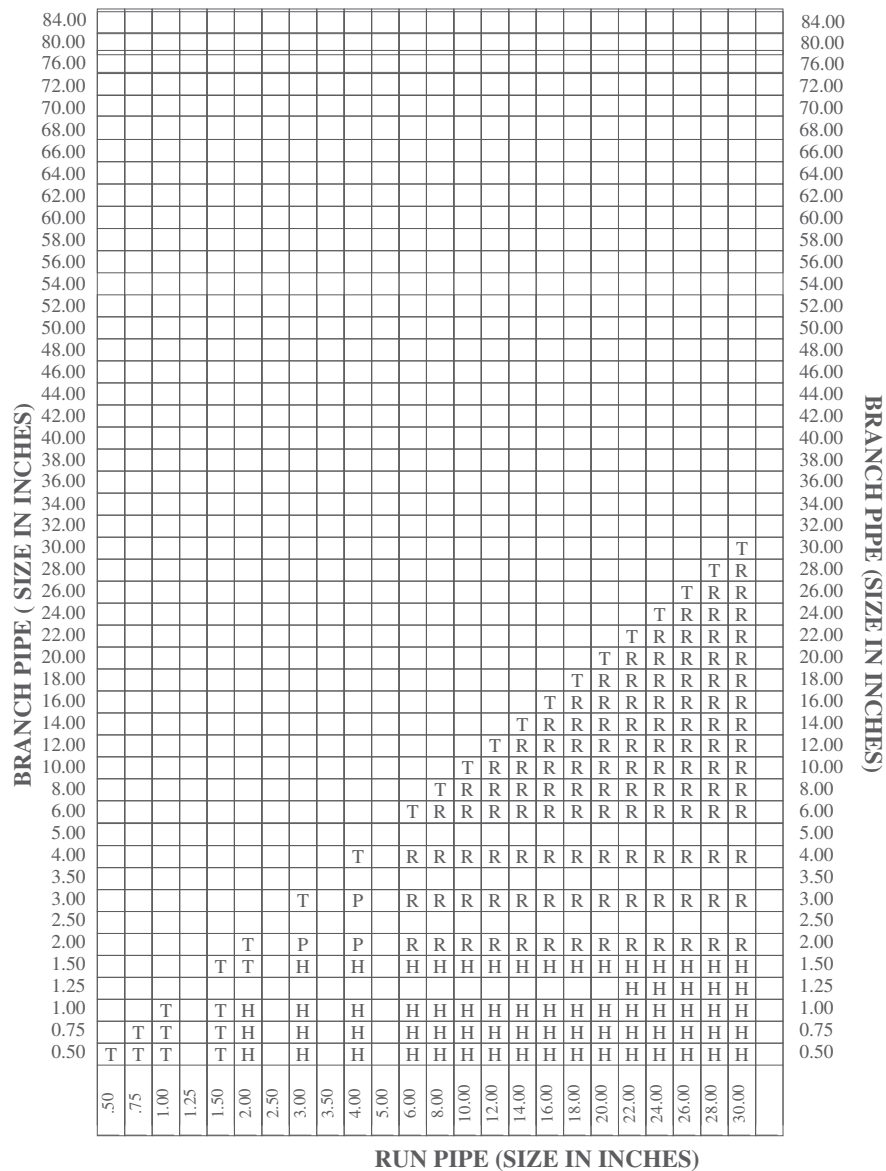
NON CORROSIVE PROCESS - FLAMMABLE / NON FLAMMABLE, NON LETHAL - HYDROCARBONS, AROMATICS, AMMONIA, SWEET GAS, FLUSHING OIL AND OTHER UTILITIES -MP CONDENSATE, INSTRUMENT AIR, PLANT AIR, NITROGEN, AMMONIA GAS ETC. ABOVE CLASS 'A1A'.

**NOTES**

- 3 USE PIPE OF CLASS 22 INSTEAD OF CLASS 12 IF PIPE THICKNESS EXCEEDS 20.00 MM.
- 5 FOR PERMANENT 'T' TYPE BW STRAINERS,REFER EIL'STD 7-44-0303 & 7-44-0304; AND FOR TEMPORARY STRAINERS,REFER EIL'STD 7-44-0300; FOR SPACER AND BLIND REFER EIL'STD 7-44-0162.
- 7 FOR RESTRICTION ON USE OF BALL,PLUG & BUTTERFLY VALVES,REFER GENERAL NOTES.
- 32 CORROSION ALLOWANCE HAS BEEN ADJUSTED TO SELECT OPTIMUM SCHEDULE. REFER GENERAL NOTES TO PMS.
- 101 NDT REQUIREMENTS AS PER EIL STANDARD B016-6-44-0016.
- 173 THICKNESS CALCULATED BASED ON 80% OF CLASS CONDITION.

**SPECIAL NOTES**

ITEM	SIZE	DESCRIPTION	A.CODE
MAINTAINENCE JOINTS	ALL	FLANGED, TO BE KEPT MINIMUM	
PIPE JOINTS	1.5" & BELOW	SW COUPLING	
	2.0" & ABOVE	BUTTWELDED	
DRAINS	ON LINES <= 1.5"	REFER EILSTD 7-44-0350, DF3	
	ON LINES >= 2.0"	AS PER P&ID OR 0.75". REFER EIL STD. 7-44-0351, D4	
VENTS	ON LINES <= 1.5"	REFER EIL STD. 7-44-0350, VF3	
	ON LINES >= 2.0"	AS PER P&ID OR 0.75". REFER EIL STD 7-44-0351, V4	
TEMP.CONN	1.5"	FLANGED. REFER EIL STD 7-44-0353	
PRESS.CONN	0.75"	SW NIPPLE WITH VALVE TO SPEC AS PER EIL STD 7-44-0354	



<u>CODE</u>	<u>DESCRIPTION</u>				
<b>F</b>	SADDLE FUSED JT	<b>T</b>	TEES	<b>J</b>	THREADOLET
<b>H</b>	H. COUPLING	<b>W</b>	WELDOLETS		
<b>P</b>	PIPE TO PIPE	<b>I</b>	INSTRUMENT TEE		
<b>R</b>	REINFORCED	<b>X</b>	Refer Notes		
<b>S</b>	SOCKOLETS	<b>L</b>	SWEEPOLET		

Note : (The shaded portion of PMS body shows Field Fabricated Items)

Input Id.	Item Type	Lower Size (Inch)	Upper Size (Inch)	Sch/ Thk (mm)	Dmn. STD	Material	Description	Commodity Code	Note No
<b>Pipe Group</b>									
PIP	PIPE	.5	.75	S160	B-36.10	ASTM A 106 GR.B	PE, SEAMLESS	PI21977Z0	
PIP	PIPE	1	1.5	XS	B-36.10	ASTM A 106 GR.B	PE, SEAMLESS	PI21977Z0	
PIP	PIPE	2	2	XS	B-36.10	ASTM A 106 GR.B	BE, SEAMLESS	PI21917Z0	
PIP	PIPE	3	14	STD	B-36.10	ASTM A 106 GR.B	BE, SEAMLESS	PI21917Z0	
PIP	PIPE	16	18	XS	B-36.10	ASTM A 672 GR.B60 CL.12	BE, E.FS.W	PI2A813Z0	
PIP	PIPE	20	20	XS	B-36.10	ASTM A 672 GR.B60 CL.12	BE, E.FS.W	PI2A813Z0	32
PIP	PIPE	24	24	XS	B-36.10	ASTM A 672 GR.B60 CL.12	BE, E.FS.W	PI2A813Z0	173
PIP	PIPE	26	26	XS	B-36.10	ASTM A 672 GR.B60 CL.12	BE, E.FS.W	PI2A813Z0	32,173
PIP	PIPE	28	28	S30	B-36.10	ASTM A 672 GR.B60 CL.12	BE, E.FS.W	PI2A813Z0	173
PIP	PIPE	30	30	S30	B-36.10	ASTM A 672 GR.B60 CL.12	BE, E.FS.W	PI2A813Z0	173
NIP	NIPPLE	.5	.75	M	B-36.10	ASTM A 106 GR.B	PBE, SEAMLESS	PN21967Z0	
NIP	NIPPLE	1	1.5	M	B-36.10	ASTM A 106 GR.B	PBE, SEAMLESS	PN21967Z0	
<b>Flange Group</b>									
FLG	FLNG.SW	.5	1.5	M	B-16.5	ASTM A 105	300, RF/125AARH	FSC0147Z0	
FLG	FLNG.WN	2	24	M	B-16.5	ASTM A 105	300, RF/125AARH	FWC0147Z0	
FLG	FLNG.WN	26	28	M	B-16.47-B	ASTM A 105	300, RF/125AARH	FWB0147Z0	
FLB	FLNG.BLIND	.5	24		B-16.5	ASTM A 105	300, RF/125AARH	FBC0147Z0	
FLB	FLNG.BLIND	26	28		B-16.47-B	ASTM A 105	300, RF/125AARH	FBB0147Z0	
FEF	FLNG.FIG.8	.5	8		ASME-B16.48	ASTM A 105	300, FF/125AARH	FGK0141Z0	
FEF	SPCR&BLND	10	24		ASME-B16.48	ASTM A 105	300, FF/125AARH	FCK0141Z0	
FEF	SPCR&BLND	26	28		EIL/STD	ASTM A 516 GR.70	300, FF/125AARH	FCE6341Z0	
<b>Fitting Group</b>									
ELB90	ELBOW.90	.5	.75		B-16.11	ASTM A 105	SW, 6000	WA602D3Z0	
ELB90	ELBOW.90	1	1.5		B-16.11	ASTM A 105	SW, 3000	WA602D2Z0	

Note : (The shaded portion of PMS body shows Field Fabricated Items)

Input Id.	Item Type	Lower Size (Inch)	Upper Size (Inch)	Sch/ Thk (mm)	Dmn. STD	Material	Description	Commodity Code	Note No
<b>Fitting Group</b>									
ELB90	ELBOW.90	2	14	M	B-16.9	ASTM A 234 GR.WPB	BW, 1.5D	WAG684Z10	
ELB90	ELBOW.90	16	28	M	B-16.9	ASTM A 234 GR.WPB-W	BW, 1.5D	WAG754Z10	
ELB45	ELBOW.45	.5	.75		B-16.11	ASTM A 105	SW, 6000	WB602D3Z0	
ELB45	ELBOW.45	1	1.5		B-16.11	ASTM A 105	SW, 3000	WB602D2Z0	
ELB45	ELBOW.45	2	14	M	B-16.9	ASTM A 234 GR.WPB	BW, 1.5D	WBG684Z10	
ELB45	ELBOW.45	16	28	M	B-16.9	ASTM A 234 GR.WPB-W	BW, 1.5D	WBG754Z10	
TEQ	T.EQUAL	.5	.75		B-16.11	ASTM A 105	SW, 6000	WE602D3Z0	
TEQ	T.EQUAL	1	1.5		B-16.11	ASTM A 105	SW, 3000	WE602D2Z0	
TEQ	T.EQUAL	2	14	M	B-16.9	ASTM A 234 GR.WPB	BW	WEG684ZZ0	
TEQ	T.EQUAL	16	28	M	B-16.9	ASTM A 234 GR.WPB-W	BW	WEG754ZZ0	
TRED	T.RED	.5	.75		B-16.11	ASTM A 105	SW, 6000	WR602D3Z0	
TRED	T.RED	1	1.5		B-16.11	ASTM A 105	SW, 3000	WR602D2Z0	
TRED	T.RED	2	14	M, M	B-16.9	ASTM A 234 GR.WPB	BW	WRG684ZZ0	
TRED	T.RED	16	28	M, M	B-16.9	ASTM A 234 GR.WPB-W	BW	WRG754ZZ0	
REDC	REDUC.CONC	2	14	M, M	B-16.9	ASTM A 234 GR.WPB	BW	WUG684ZZ0	
REDC	REDUC.CONC	16	28	M, M	B-16.9	ASTM A 234 GR.WPB-W	BW	WUG754ZZ0	
REDE	REDUC.ECC	2	14	M, M	B-16.9	ASTM A 234 GR.WPB	BW	WVG684ZZ0	
REDE	REDUC.ECC	16	28	M, M	B-16.9	ASTM A 234 GR.WPB-W	BW	WVG754ZZ0	
SWGC	SWAGE.CONC	.5	3	M, M	BS-3799	ASTM A 105	PBE	WNH026ZZ0	
SWGE	SWAGE.ECC	.5	3	M, M	BS-3799	ASTM A 105	PBE	WPH026ZZ0	
CAP	CAP	2	28	M	B-16.9	ASTM A 234 GR.WPB	BW	WFG684ZZ0	
CPLF	CPLNG.FULL	.5	.75		B-16.11	ASTM A 105	SW, 6000	WJ602D3Z0	
CPLF	CPLNG.FULL	1	1.5		B-16.11	ASTM A 105	SW, 3000	WJ602D2Z0	

Package : IPMCS

Report No. : 50

**B1A**

Template No. 5-0000-0001-T2 Rev.

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Note : (The shaded portion of PMS body shows Field Fabricated Items)

Input Id.	Item Type	Lower Size (Inch)	Upper Size (Inch)	Sch/ Thk (mm)	Dmn. STD	Material	Description	Commodity Code	Note No
<b>Fitting Group</b>									
CPLH	CPLNG.HALF	.5	.75		B-16.11	ASTM A 105	SW, 6000	WK602D3Z0	
CPLH	CPLNG.HALF	1	1.5		B-16.11	ASTM A 105	SW, 3000	WK602D2Z0	
CPLL	CPLNG.LH	.5	.75		B-16.11	ASTM A 105	SW, 6000	WL602D3Z0	
CPLL	CPLNG.LH	1	1.5		B-16.11	ASTM A 105	SW, 3000	WL602D2Z0	
CPLR	CPLNG.RED	.5	.75		B-16.11	ASTM A 105	SW, 6000	WM602D3Z0	
CPLR	CPLNG.RED	1	1.5		B-16.11	ASTM A 105	SW, 3000	WM602D2Z0	
<b>Valves Group</b>									
GAV	VLV.GATE	.25	1.5		API 602/ ISO 15761	BODY-ASTM A 105,TRIM- STELLITED,STEM- 13%CR.STEEL	SW, 800, 3000, B- 16.11, SHT NO.- 51001	51001ZZZ0	
GAV	VLV.GATE	2	24		API 600/ ISO 10434	BODY-ASTM A 216 GR.WCB,TRIM- 13% CR.STEEL	FLGD, 300, B-16.5, RF/125AARH, SHT NO.- 51401	51401ZZZ0	
GLV	VLV.GLOBE	.25	1.5		BS EN ISO 15761	BODY-ASTM A 105,TRIM- STELLITED,STEM- 13%CR STEEL	SW, 800, 3000, B- 16.11, SHT NO.- 52001	52001ZZZ0	
GLV	VLV.GLOBE	2	12		BS-1873	BODY-ASTM A 216 GR.WCB,TRIM- 13% CR.STEEL	FLGD, 300, B-16.5, RF/125AARH, SHT NO.- 52401	52401ZZZ0	
CHV	VLV.CHECK	.25	1.5		BS EN ISO 15761	BODY-ASTM A 105,TRIM- STELLITED	SW, 800, 3000, B- 16.11, SHT NO.- 53001	53001ZZZ0	
CHV	VLV.CHECK	2	24		BS-1868	BODY-ASTM A 216 GR.WCB,TRIM- 13% CR.STEEL	FLGD, 300, B-16.5, RF/125AARH, SHT NO.- 53401	53401ZZZ0	
BLV	VLV.BALL	.5	16		BS EN ISO 17292	BODY-ASTM A 105 / A 216GR.WCB,TRIM- BODY SEAT- RPTFE	FLGD, 300, B-16.5, RF/125AARH, SHT NO.- 54401	54401ZZZ0	
PLV	VLV.PLUG	.5	24		BS-5353	BODY-ASTM A 105 / A 216GR.WCB,TRIM- PLUG-HARDENED	FLGD, 300, B-16.5, RF/125AARH, SHT NO.- 55401	55401ZZZ0	
<b>Bolt Group</b>									
BOS	BOLT.STUD	.5	28		B-18.2	BOLT:A193 GR.B7, NUT:A194 GR.2H		BS40404Z0	
<b>Gasket Group</b>									
GAS	GASKET	.5	24		B-16.20- ANSI B16.5	SP.WND SS316+GRAFIL	SPIRAL, 300	GK65074Z0	

Package : IPMCS

Report No. : 50

**B1A**

Note : (The shaded portion of PMS body shows Field Fabricated Items)

Input Id.	Item Type	Lower Size (Inch)	Upper Size (Inch)	Sch/ Thk (mm)	Dmn. STD	Material	Description	Commodity Code	Note No
<b>Gasket Group</b>									
GAS	GASKET	26	28		B-16.20-ANSI B16.47B	SP.WND SS316+GRAFIL+ I RING	SPIRAL, 300	GK56274Z0	
<b>Trap/Strainer Group</b>									
TRP	TRAP.STEAM	.5	1.5		MNF'STD	B:A105;T:13%CR;S: SS304	FLGD, THRMDNMC, 300,RF/125AARH	TR30655B0	
TSR	STRNR.TEMP	1.5	24		EIL'STD	B:A516GR.70;INT:S S304	CONETYPE, 300,FF/125AARH	ST16839Z0	
PSR	STRNR.PERM	.5	1.5		MNF'STD	B:A105;INT:SS304	SW, Y-TYPE, 800	SP303D510	
PSR	STRNR.PERM	2	14	M	EIL'STD	B:A234GR.WPB;IN T:SS304	BW, T-TYPE	SP13344Z0	
PSR	STRNR.PERM	16	24	M	EIL'STD	B:A234GR.WPBW;I NT:SS304	BW, T-TYPE	SP13644Z0	

PIPE CLASS : **A1A**  
RATING : 150  
BASE MATERIAL : CARBON STEEL  
CORROSION ALLOWANCE : 1.5 MM  
SPECIAL REQUIREMENT :

**TEMPERATURE (Deg. C) AND PRESSURE ( Kg/Sq. cm g ) RATINGS**

TEMP	-29	38	93	149	204	260	316	343	371
PRESS	20.03	20.03	18.28	16.17	14.06	11.95	9.84	8.78	7.73

**SERVICE**

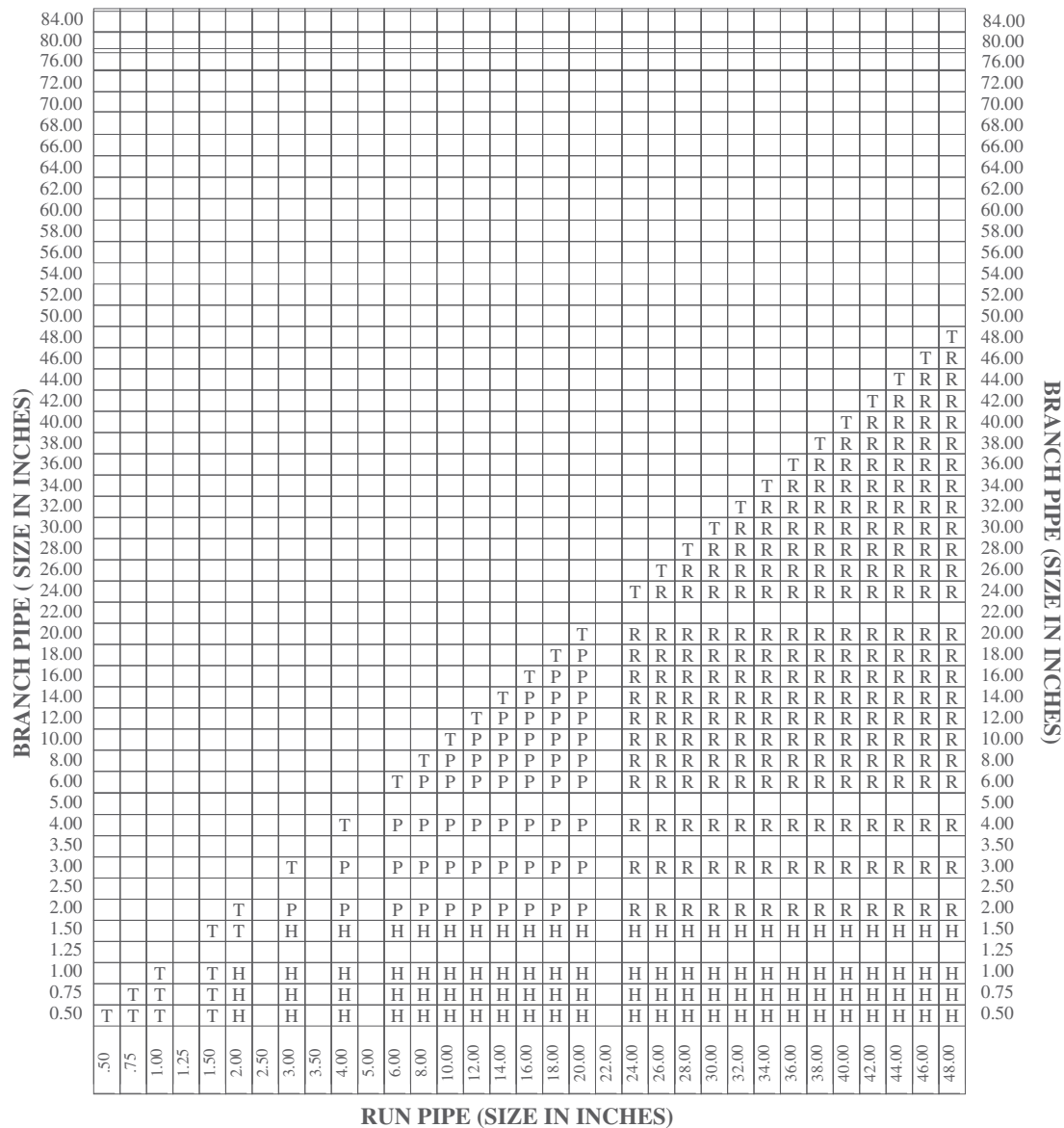
NON CORROSIVE/ FLAMMABLE / NON FLAMMABLE/ NON LETHAL -PROCESS & HYDROCARBONS; LUBE OIL BEFORE FILTER; AMMONIA, STEAM & CONDENSATE (NON IBR); UTILITIES- INST AIR(BEYOND A3A), PLANT AIR, NITROGEN, CARBONDIOXIDE; WATER - BEYOND A3A AND A10A; IN OFFSITES ONLY BEYOND A10A;

**NOTES**

- 5 FOR PERMANENT 'T' TYPE BW STRAINERS,REFER EIL'STD 7-44-0303 & 7-44-0304; AND FOR TEMPORARY STRAINERS,REFER EIL'STD 7-44-0300; FOR SPACER AND BLIND REFER EIL'STD 7-44-0162.
- 7 FOR RESTRICTION ON USE OF BALL,PLUG & BUTTERFLY VALVES,REFER GENERAL NOTES.
- 36 THIS IS A PRESSURE BALANCED PLUG VALVES WHICH SHALL BE USED ONLY IF SPECIFIED IN P&ID.
- 92 GATE VALVES OF SIZE 26" AND ABOVE SHALL BE IN ACCORDANCE WITH B-16.34/ BS-1414 AND FLANGE ENDS SHALL BE IN ACCORDANCE WITH ASME B16.47 SERIES B.
- 101 NDT REQUIREMENTS AS PER EIL STANDARD B016-6-44-0016.

**SPECIAL NOTES**

ITEM	SIZE	DESCRIPTION	A.CODE
MAINTAINENCE JOINTS	ALL	FLANGED, TO BE KEPT MINIMUM	
PIPE JOINTS	1.5" & BELOW	SW COUPLING	
	2.0" & ABOVE	BUTTWELDED	
DRAINS	ON LINES <= 1.5"	REFER EILSTD 7-44-0350, DF3	
	ON LINES >= 2.0"	AS PER P&ID OR 0.75". REFER EIL STD. 7-44-0351, D4	
VENTS	ON LINES <= 1.5"	REFER EIL STD. 7-44-0350, VF3	
	ON LINES >= 2.0"	AS PER P&ID OR 0.75". REFER EIL STD 7-44-0351, V4	
TEMP.CONN	1.5"	FLANGED. REFER EIL STD 7-44-0353	
PRESS.CONN	0.75"	SW NIPPLE WITH VALVE TO SPEC AS PER EIL STD 7-44-0354	



<u>CODE</u>	<u>DESCRIPTION</u>
F	SADDLE FUSED JT
H	H. COUPLING
P	PIPE TO PIPE
R	REINFORCED
S	SOCKOLETS
T	TEES
W	WELDOLETS
I	INSTRUMENT TEE
X	Refer Notes
L	SWEEPOLET
J	THREAOLET



Note : (The shaded portion of PMS body shows Field Fabricated Items)

Input Id.	Item Type	Lower Size (Inch)	Upper Size (Inch)	Sch/ Thk (mm)	Dmn. STD	Material	Description	Commodity Code	Note No
<b>Pipe Group</b>									
PIP	PIPE	.5	.75	S160	B-36.10	ASTM A 106 GR.B	PE, SEAMLESS	PI21977Z0	
PIP	PIPE	1	1.5	XS	B-36.10	ASTM A 106 GR.B	PE, SEAMLESS	PI21977Z0	
PIP	PIPE	2	2	XS	B-36.10	ASTM A 106 GR.B	BE, SEAMLESS	PI21917Z0	
PIP	PIPE	3	14	STD	B-36.10	ASTM A 106 GR.B	BE, SEAMLESS	PI21917Z0	
PIP	PIPE	16	36	STD	B-36.10	ASTM A 672 GR.B60 CL.12	BE, E.FS.W	PI2A813Z0	
PIP	PIPE	40	48	XS	B-36.10	ASTM A 672 GR.B60 CL.12	BE, E.FS.W	PI2A813Z0	
NIP	NIPPLE	.5	.75	M	B-36.10	ASTM A 106 GR.B	PBE, SEAMLESS	PN21967Z0	
NIP	NIPPLE	1	1.5	M	B-36.10	ASTM A 106 GR.B	PBE, SEAMLESS	PN21967Z0	
<b>Flange Group</b>									
FLG	FLNG.WN	.5	24	M	B-16.5	ASTM A 105	150, RF/125AARH	FWC0127Z0	
FLG	FLNG.WN	26	48	M	B-16.47-B	ASTM A 105	150, RF/125AARH	FWB0127Z0	
FLG/300	FLNG.WN	2	24	M	B-16.5	ASTM A 105	300, RF/125AARH	FWC0147Z0	
FLB	FLNG.BLIND	.5	24		B-16.5	ASTM A 105	150, RF/125AARH	FBC0127Z0	
FLB	FLNG.BLIND	26	48		B-16.47-B	ASTM A 105	150, RF/125AARH	FBB0127Z0	
FLB/300	FLNG.BLIND	.5	24		B-16.5	ASTM A 105	300, RF/125AARH	FBC0147Z0	
FEF	FLNG.FIG.8	.5	8		ASME-B16.48	ASTM A 105	150, FF/125AARH	FGK0121Z0	
FEF	SPCR&BLND	10	24		ASME-B16.48	ASTM A 105	150, FF/125AARH	FCK0121Z0	
FEF	SPCR&BLND	26	48		EIL/STD	ASTM A 516 GR.70	150, FF/125AARH	FCE6321Z0	
<b>Fitting Group</b>									
ELB90	ELBOW.90	.5	.75		B-16.11	ASTM A 105	SW, 6000	WA602D3Z0	
ELB90	ELBOW.90	1	1.5		B-16.11	ASTM A 105	SW, 3000	WA602D2Z0	
ELB90	ELBOW.90	2	14	M	B-16.9	ASTM A 234 GR.WPB	BW, 1.5D	WAG684Z10	
ELB90	ELBOW.90	16	48	M	B-16.9	ASTM A 234 GR.WPB-W	BW, 1.5D	WAG754Z10	
ELB45	ELBOW.45	.5	.75		B-16.11	ASTM A 105	SW, 6000	WB602D3Z0	

Package : IPMCS

Report No. : 50

A1A

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Input Id.	Item Type	Lower Size (Inch)	Upper Size (Inch)	Sch/ Thk (mm)	Dmn. STD	Material	Description	Commodity Code	Note No
<b>Fitting Group</b>									
ELB45	ELBOW.45	1	1.5		B-16.11	ASTM A 105	SW, 3000	WB602D2Z0	
ELB45	ELBOW.45	2	14	M	B-16.9	ASTM A 234 GR.WPB	BW, 1.5D	WBG684Z10	
ELB45	ELBOW.45	16	48	M	B-16.9	ASTM A 234 GR.WPB-W	BW, 1.5D	WBG754Z10	
TEQ	T.EQUAL	.5	.75		B-16.11	ASTM A 105	SW, 6000	WE602D3Z0	
TEQ	T.EQUAL	1	1.5		B-16.11	ASTM A 105	SW, 3000	WE602D2Z0	
TEQ	T.EQUAL	2	14	M	B-16.9	ASTM A 234 GR.WPB	BW	WEG684ZZ0	
TEQ	T.EQUAL	16	48	M	B-16.9	ASTM A 234 GR.WPB-W	BW	WEG754ZZ0	
TRED	T.RED	.5	.75		B-16.11	ASTM A 105	SW, 6000	WR602D3Z0	
TRED	T.RED	1	1.5		B-16.11	ASTM A 105	SW, 3000	WR602D2Z0	
TRED	T.RED	2	14	M, M	B-16.9	ASTM A 234 GR.WPB	BW	WRG684ZZ0	
TRED	T.RED	16	48	M, M	B-16.9	ASTM A 234 GR.WPB-W	BW	WRG754ZZ0	
REDC	REDUC.CONC	2	14	M, M	B-16.9	ASTM A 234 GR.WPB	BW	WUG684ZZ0	
REDC	REDUC.CONC	16	48	M, M	B-16.9	ASTM A 234 GR.WPB-W	BW	WUG754ZZ0	
REDE	REDUC.ECC	2	14	M, M	B-16.9	ASTM A 234 GR.WPB	BW	WVG684ZZ0	
REDE	REDUC.ECC	16	48	M, M	B-16.9	ASTM A 234 GR.WPB-W	BW	WVG754ZZ0	
SWGC	SWAGE.CONC	.5	3	M, M	BS-3799	ASTM A 105	PBE	WNH026ZZ0	
SWGE	SWAGE.ECC	.5	3	M, M	BS-3799	ASTM A 105	PBE	WPH026ZZ0	
CAP	CAP	2	48	M	B-16.9	ASTM A 234 GR.WPB	BW	WFG684ZZ0	
CPLF	CPLNG.FULL	.5	.75		B-16.11	ASTM A 105	SW, 6000	WJ602D3Z0	
CPLF	CPLNG.FULL	1	1.5		B-16.11	ASTM A 105	SW, 3000	WJ602D2Z0	
CPLH	CPLNG.HALF	.5	.75		B-16.11	ASTM A 105	SW, 6000	WK602D3Z0	
CPLH	CPLNG.HALF	1	1.5		B-16.11	ASTM A 105	SW, 3000	WK602D2Z0	
CPLL	CPLNG.LH	.5	.75		B-16.11	ASTM A 105	SW, 6000	WL602D3Z0	

Package : IPMCS

Report No. : 50

A1A

Template No. 5-0000-0001-T2 Rev.

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Note : (The shaded portion of PMS body shows Field Fabricated Items)

Input Id.	Item Type	Lower Size (Inch)	Upper Size (Inch)	Sch/ Thk (mm)	Dmn. STD	Material	Description	Commodity Code	Note No
<b>Fitting Group</b>									
CPLL	CPLNG.LH	1	1.5		B-16.11	ASTM A 105	SW, 3000	WL602D2Z0	
CPLR	CPLNG.RED	.5	.75		B-16.11	ASTM A 105	SW, 6000	WM602D3Z0	
CPLR	CPLNG.RED	1	1.5		B-16.11	ASTM A 105	SW, 3000	WM602D2Z0	
<b>Valves Group</b>									
GAV	VLV.GATE	.25	1.5		API 602/ ISO 15761	BODY-ASTM A 105,TRIM- STELLITED,STEM- 13%CR.STEEL	SW, 800, 3000, B- 16.11, SHT NO.- 51001	51001ZZZ0	
GAV	VLV.GATE	2	42		API 600/ ISO 10434	BODY-ASTM A 216 GR.WCB,TRIM- 13% CR.STEEL	FLGD, 150, B-16.5, RF/125AARH, SHT NO.- 51301	51301ZZZ0	92
GLV	VLV.GLOBE	.25	1.5		BS EN ISO 15761	BODY-ASTM A 105,TRIM- STELLITED,STEM- 13%CR STEEL	SW, 800, 3000, B- 16.11, SHT NO.- 52001	52001ZZZ0	
GLV	VLV.GLOBE	2	16		BS-1873	BODY-ASTM A 216 GR.WCB,TRIM- 13% CR.STEEL	FLGD, 150, B-16.5, RF/125AARH, SHT NO.- 52301	52301ZZZ0	
CHV	VLV.CHECK	.25	1.5		BS EN ISO 15761	BODY-ASTM A 105,TRIM- STELLITED	SW, 800, 3000, B- 16.11, SHT NO.- 53001	53001ZZZ0	
CHV	VLV.CHECK	2	24		BS 1868	BODY-ASTM A 216 GR.WCB,TRIM- 13% CR.STEEL	FLGD, 150, B-16.5, RF/125AARH, SHT NO.- 53301	53301ZZZ0	
CHV	VLV.CHECK	26	28		API-594	BODY-ASTM A 216 GR.WCB,TRIM- 13% CR.STEEL	FLGD, 150, B-16.47 B, RF/125AARH, SHT NO.- 53925	53925ZZZ0	
BLV	VLV.BALL	.5	16		BS EN ISO 17292	BODY-ASTM A 105 / A 216GR.WCB,TRIM- BODY SEAT- RPTFE	FLGD, 150, B-16.5, RF/125AARH, SHT NO.- 54301	54301ZZZ0	
PLV	VLV.PLUG	.5	24		BS-5353	BODY-ASTM A 105 / A 216GR.WCB,TRIM- PLUG-HARDENED	FLGD, 150, B-16.5, RF/125AARH, SHT NO.- 55301	55301ZZZ0	
PLV/I	VLV.PLUG	.5	36		BS-5353	BODY-ASTM A 105 / A 216GR.WCB,TRIM- PLUG-HARDENED	FLGD, 150, B-16.5, RF/125AARH, SHT NO.- 55315	55315ZZZ0	36
BFV	VLV.BTRFLY	3	24		BS EN 593	BODY-ASTM A 216 GR.WCB,TRIM- 13% CR.STEEL	WAF, 150, B-16.5, WAF/125AARH, SHT NO.- 56301	56301ZZZ0	
BFV	VLV.BTRFLY	26	48		BS EN 593	BODY-ASTM A 216 GR.WCB,TRIM- 13% CR.STEEL	FLGD, 150, B-16.47 B, RF/125AARH, SHT NO.- 56315	56315ZZZ0	

Note : (The shaded portion of PMS body shows Field Fabricated Items)

Input Id.	Item Type	Lower Size (Inch)	Upper Size (Inch)	Sch/Thk (mm)	Dmn. STD	Material	Description	Commodity Code	Note No
<b>Bolt Group</b>									
BOS	BOLT.STUD	.5	48		B-18.2	BOLT:A193 GR.B7, NUT:A194 GR.2H		BS40404Z0	
<b>Gasket Group</b>									
GAS	GASKET	.5	24		B-16.20- ANSI B16.5	SP.WND SS316+GRAFIL	SPIRAL, 150	GK65072Z0	
GAS	GASKET	26	48		B-16.20- ANSI B16.47B	SP.WND SS316+GRAFIL+ I RING	SPIRAL, 150	GK56272Z0	
GAS/300	GASKET	.5	24		B-16.20- ANSI B16.5	SP.WND SS316+GRAFIL+ I RING	SPIRAL, 300	GK66274Z0	
<b>Trap/Strainer Group</b>									
TRP	TRAP.STEAM	.5	1.5		MNF'STD	B:A105;T:13%CR;S: SS304	FLGD, THRMDNMC, 150,RF/125AARH	TR3065530	
TSR	STRNR.TEMP	1.5	24		EIL'STD	B:A516GR.70;INT:S S304	CONETYPE, 150,FF/125AARH	ST16831Z0	
PSR	STRNR.PERM	.5	1.5		MNF'STD	B:A105;INT:SS304	SW, Y-TYPE, 800	SP303D510	
PSR	STRNR.PERM	2	14	M	EIL'STD	B:A234GR.WPB;IN T:SS304	BW, T-TYPE	SP13344Z0	
PSR	STRNR.PERM	16	24	M	EIL'STD	B:A234GR.WPBW;I NT:SS304	BW, T-TYPE	SP13644Z0	

PIPE CLASS : **B1K**  
RATING : 300  
BASE MATERIAL : SS 304  
CORROSION ALLOWANCE : 0 MM  
SPECIAL REQUIREMENT :

**TEMPERATURE (Deg. C) AND PRESSURE ( Kg/Sq. cm g ) RATINGS**

TEMP	-29	38	93	149	204	260	316	343	371	399	427	454
PRESS	50.5	50.5	42.18	37.96	34.8	32.69	30.58	30.23	29.88	29.17	28.47	27.77

**SERVICE**

PURE PROCESS LIQUID, VAPOUR AND GAS OR MILD CORROSIVE HYDROCARBON - FLAMMABLE/ NON FLAMMABLE & NON LETHAL HYDROCARBONS, CHEMICAL ETC.

**NOTES**

- 1 NDT REQUIREMENTS AS PER EIL STANDARD 6-44-0016.
- 5 FOR PERMANENT 'T' TYPE BW STRAINERS,REFER EIL'STD 7-44-0303 -44-0304; AND FOR TEMPORARY STRAINERS,REFER EIL'STD 7-44-0300; FOR SPACER AND BLIND REFER EIL'STD 7-44-0162.
- 7 FOR RESTRICTION ON USE OF BALL,PLUG & BUTTERFLY VALVES,REFER GENERAL NOTES.
- 48 FOR INSULATED FLANGED JOINTS BEYOND 427 DEG.C. IN THIS CLASS, USE A453 GR.660 CL.A
- 51 DESIGN PRESSURE AT -29 DEG.C. AND 38 DEG.C. FOR THIS PRESSURE HAS BEEN REDUCED FROM 50.62 KG/CM2G TO 50.50 KG/CM2G TO OPTIMISE THE THICKNESS FOR 6" SIZE.
- 74 STRESS RUPTURE TEST AS DETAILED IN ASTM A453 SHALL BE CARRIED OUT FOR ALL ASTM A453 GR.660A BOLTING MATERIALS.
- 121 ASBESTOS FREE GASKETS AND STEM PACKING SHALL BE USED FOR ALL VALVES

**SPECIAL NOTES**

ITEM	SIZE	DESCRIPTION	A.CODE
MAINTAINENCE JOINTS	ALL	FLANGED, TO BE KEPT MINIMUM	
PIPE JOINTS	1.5" & BELOW	SW COUPLING	
	2.0" & ABOVE	BUTTWELDED	
DRAINS	ON LINES <= 1.5"	REFER EILSTD 7-44-0350, DF3	
	ON LINES >= 2.0"	AS PER P&ID OR 0.75". REFER EIL STD. 7-44-0351, D4	
VENTS	ON LINES <= 1.5"	REFER EIL STD. 7-44-350, VF3	
	ON LINES >= 2.0"	AS PER P&ID OR 0.75". REFER EIL STD 7-44-0351, V4	
TEMP.CONN	1.5"	FLANGED. REFER EIL STD 7-44-0353	
PRESS.CONN	0.75"	SW NIPPLE WITH VALVE TO SPEC AS PER EIL STD 7-44-0354	

[illegible]

<u>CODE</u>	<u>DESCRIPTION</u>
F	SADDLE FUSED JT
H	H. COUPLING
P	PIPE TO PIPE
R	REINFORCED
S	SOCKOLETS
T	TEES
W	WELDOLETS
I	INSTRUMENT TEE
X	Refer Notes
L	SWEEPOLET
J	THREADOLET

**Note : (The shaded portion of PMS body shows Field Fabricated Items)**

Input Id.	Item Type	Lower Size (Inch)	Upper Size (Inch)	Sch/ Thk	Dmn. STD	Material	Description	Commodity Code	Note No
<b>Pipe Group</b>									
PIP	PIPE	0.50	0.75	80S	B-36.19	ASTM A 312 TP304	PE, SEAMLESS	PI33577Z0	
PIP	PIPE	1.00	1.50	40S	B-36.19	ASTM A 312 TP304	PE, SEAMLESS	PI33577Z0	
PIP	PIPE	2.00	2.00	40S	B-36.19	ASTM A 312 TP304	BE, SEAMLESS	PI33517Z0	
PIP	PIPE	3.00	4.00	10S	B-36.19	ASTM A 312 TP304	BE, SEAMLESS	PI33517Z0	
PIP	PIPE	6.00	6.00	10S	B-36.19	ASTM A 312 TP304	BE, SEAMLESS	PI33517Z0	51
PIP	PIPE	8.00	8.00	6.35	B-36.19	ASTM A 312 TP304	BE, SEAMLESS	PI33517Z0	
PIP	PIPE	10.00	10.00	6.35	B-36.19	ASTM A 358 TP304 CL.1	BE, E.FS.W	PI35513Z0	
PIP	PIPE	12.00	12.00	8.38	B-36.19	ASTM A 358 TP304 CL.1	BE, E.FS.W	PI35513Z0	
PIP	PIPE	14.00	14.00	7.92	B-36.19	ASTM A 358 TP304 CL.1	BE, E.FS.W	PI35513Z0	
PIP	PIPE	16.00	18.00	9.53	B-36.19	ASTM A 358 TP304 CL.1	BE, E.FS.W	PI35513Z0	
PIP	PIPE	20.00	24.00	CALC	B-36.19	ASTM A 358 TP304 CL.1	BE, E.FS.W	PI35513Z0	
NIP	NIPPLE	0.50	0.75	M	B-36.19	ASTM A 312 TP304	PBE, SEAMLESS	PN33567Z0	
NIP	NIPPLE	1.00	1.50	M	B-36.19	ASTM A 312 TP304	PBE, SEAMLESS	PN33567Z0	
<b>Flange Group</b>									
FLG	FLNG.SW	0.50	1.50	M	B-16.5	ASTM A 182 GR.F304	300, RF/125AARH	FSC4147Z0	
FLG	FLNG.WN	2.00	24.00	M	B-16.5	ASTM A 182 GR.F304	300, RF/125AARH	FWC4147Z0	
FLB	FLNG.BLIND	0.50	24.00		B-16.5	ASTM A 182 GR.F304	300, RF/125AARH	FBC4147Z0	
FEF	FLNG.FIG.8	0.50	8.00		ASME-B16.48	ASTM A 182 GR.F304	300, FF/125AARH	FGK4141Z0	
FEF	SPCR&BLND	10.00	24.00		ASME-B16.48	ASTM A 182 GR.F304	300, FF/125AARH	FCK4141Z0	
<b>Fitting Group</b>									
ELB90	ELBOW.90	0.50	1.50		B-16.11	ASTM A 182 GR.F304	SW, 3000	WA642D2Z0	
ELB90	ELBOW.90	2.00	8.00	M	B-16.9	ASTM A 403 GR.WP304-S	BW, 1.5D	WAG874Z10	
ELB90	ELBOW.90	10.00	24.00	M	B-16.9	ASTM A 403 GR.WP304-WX	BW, 1.5D	WAG894Z10	
ELB45	ELBOW.45	0.50	1.50		B-16.11	ASTM A 182 GR.F304	SW, 3000	WB642D2Z0	

Note : (The shaded portion of PMS body shows Field Fabricated Items)

Input Id.	Item Type	Lower Size (Inch)	Upper Size (Inch)	Sch/ Thk	Dmn. STD	Material	Description	Commodity Code	Note No
<b>Fitting Group</b>									
ELB45	ELBOW.45	2.00	8.00	M	B-16.9	ASTM A 403 GR.WP304-S	BW, 1.5D	WBG874Z10	
ELB45	ELBOW.45	10.00	24.00	M	B-16.9	ASTM A 403 GR.WP304-WX	BW, 1.5D	WBG894Z10	
TEQ	T.EQUAL	0.50	1.50		B-16.11	ASTM A 182 GR.F304	SW, 3000	WE642D2Z0	
TEQ	T.EQUAL	2.00	8.00	M	B-16.9	ASTM A 403 GR.WP304-S	BW	WEG874ZZ0	
TEQ	T.EQUAL	10.00	24.00	M	B-16.9	ASTM A 403 GR.WP304-WX	BW	WEG894ZZ0	
TRED	T.RED	0.50	1.50		B-16.11	ASTM A 182 GR.F304	SW, 3000	WR642D2Z0	
TRED	T.RED	2.00	8.00	M, M	B-16.9	ASTM A 403 GR.WP304-S	BW	WRG874ZZ0	
TRED	T.RED	10.00	24.00	M, M	B-16.9	ASTM A 403 GR.WP304-WX	BW	WRG894ZZ0	
REDC	REDUC.CONC	2.00	8.00	M, M	B-16.9	ASTM A 403 GR.WP304-S	BW	WUG874ZZ0	
REDC	REDUC.CONC	10.00	24.00	M, M	B-16.9	ASTM A 403 GR.WP304-WX	BW	WUG894ZZ0	
REDE	REDUC.ECC	2.00	8.00	M, M	B-16.9	ASTM A 403 GR.WP304-S	BW	WVG874ZZ0	
REDE	REDUC.ECC	10.00	24.00	M, M	B-16.9	ASTM A 403 GR.WP304-WX	BW	WVG894ZZ0	
SWGC	SWAGE.CONC	0.50	3.00	M, M	BS-3799	ASTM A 182 GR.F304	PBE	WNH426ZZ0	
SWGE	SWAGE.ECC	0.50	3.00	M, M	BS-3799	ASTM A 182 GR.F304	PBE	WPH426ZZ0	
CAP	CAP	2.00	24.00	M	B-16.9	ASTM A 403 GR.WP304-S	BW	WFG874ZZ0	
CPLF	CPLNG.FULL	0.50	1.50		B-16.11	ASTM A 182 GR.F304	SW, 3000	WJ642D2Z0	
CPLH	CPLNG.HALF	0.50	1.50		B-16.11	ASTM A 182 GR.F304	SW, 3000	WK642D2Z0	
CPLL	CPLNG.LH	0.50	1.50		B-16.11	ASTM A 182 GR.F304	SW, 3000	WL642D2Z0	
CPLR	CPLNG.RED	0.50	1.50		B-16.11	ASTM A 182 GR.F304	SW, 3000	WM642D2Z0	
<b>Valves Group</b>									
GAV	VLV.GATE	0.50	1.50		API-602	BODY-ASTM A 182 GR.F304,TRIM-STELLITED,STEM-SS 304	SW, 800, 3000, B-16.11, SHT NO.- 51045	51045ZZZ0	
GAV	VLV.GATE	2.00	24.00		API-600	BODY-ASTM A 351 GR.CF8,TRIM-SS 304	FLGD, 300, B-16.5, RF/125AARH, SHT NO.- 51445	51445ZZZ0	



Note : (The shaded portion of PMS body shows Field Fabricated Items)

Input Id.	Item Type	Lower Size (Inch)	Upper Size (Inch)	Sch/ Thk	Dmn. STD	Material	Description	Commodity Code	Note No
<b>Valves Group</b>									
GLV	VLV.GLOBE	0.50	1.50		BS-5352	BODY-ASTM A 182 GR.F304,TRIM-STELLITED,STEM-SS304	SW, 800, 3000, B-16.11, SHT NO.- 52045	52045ZZZ0	
GLV	VLV.GLOBE	2.00	12.00		BS-1873	BODY-ASTM A 351 GR.CF8,TRIM-SS 304	FLGD, 300, B-16.5, RF/125AARH, SHT NO.- 52445	52445ZZZ0	
CHV	VLV.CHECK	0.50	1.50		BS-5352	BODY-ASTM A 182 GR.F304,TRIM-STELLITED	SW, 800, 3000, B-16.11, SHT NO.- 53045	53045ZZZ0	
CHV	VLV.CHECK	2.00	24.00		BS-1868	BODY-ASTM A 351 GR.CF8,TRIM-SS 304	FLGD, 300, B-16.5, RF/125AARH, SHT NO.- 53445	53445ZZZ0	
BLV	VLV.BALL	0.50	16.00		BS-5351	BODY-ASTM A 351 GR.CF8 / ASTM A 182 GR.F304,TRIM-SEAT-RPTFE	FLGD, 300, B-16.5, RF/125AARH, SHT NO.- 54445	54445ZZZ0	
<b>Bolt Group</b>									
BOS	BOLT.STUD	0.50	24.00		B-18.2	BOLT:A193 GR.B7, NUT:A194 GR.2H		BS40404Z0	48
<b>Gasket Group</b>									
GAS	GASKET	0.50	24.00		B-16.20-ANSI B16.5	SP.WND SS316+GRAFIL+ I RING	SPIRAL, 300	GK66274Z0	
<b>Trap/Strainer Group</b>									
TSR	STRNR.TEMP	1.50	24.00		EIL/STD	B:A240TP304;INT:S S304	CONETYPE, 300,FF/125AARH	ST14139Z0	
PSR	STRNR.PERM	0.50	1.50		MNF'STD	B:A182GR.F304;IN T:SS304	SW, Y-TYPE, 800	SP307D510	
PSR	STRNR.PERM	2.00	8.00	M	EIL/STD	B:A403GR.WP304-S;INT:SS304	BW, T-TYPE	SP15344Z0	
PSR	STRNR.PERM	10.00	24.00	M	EIL/STD	B:A403GR.WP304-WX;INT:SS304	BW, T-TYPE	SP15444Z0	