



ITEM	PART NO.	NB	OD	SCH. THICKNESS	MM	CLASS	SPECIFICATION STANDARD	QTY. (m)	REMARKS	
VALVE	9A	150				PCV		1	PR.CONTROL VALVE	
	9C	15				VS04A - 301,302,306		3	GATE VALVE	
	9B	100				VS02A - 338A		1	GATE VALVE	
	9A	150				VG01A - 305		1	GLOBE VALVE	
	9	150				VS02A - 303,304,309		3	GATE VALVE	
	STUDS & NUTS	8D	100				3/4" x 7 1/2"	CS,Full Threaded Stud Bolts&Heavy Hexagonal Nuts, SA193 Gr.B7& SA194 Gr.2H ANSI B18.2.1 & 2.2	8	
		8C	80				3/4" x 4 1/2"		4	
		8B	40				3/4" x 3/4"		4	
		8A	100				3/4" x 4 1/2"		24	
8		150				3/4" x 4 3/4"	120			
NIPPLES GASKETS	7C	80					Self-Centering Flat Ring, VIRGIN PTFE,3.2mm thk IS:2712 Gr.W/1 ANSI B16.21	1		
	7B	40						1		
	7A	100						4		
	7	150						10		
HALF COUPLING	6C	15					SA106 Gr.B sch80	1		
	6B	20						1		
	6	15						2		
FLANGES	5D	150					SORF/BLIND Flanges with serrated finish, Forged CS. SA 105 ANSI B16.5 CL 150/ CL 300	1	END CAP	
	5C	80						1		
	5B	40						1		
	5A	100						4		
	5	150						10		
REDUCER	4	150x100				CON.REDUCER	ASTM A 105/ ANSI B16.11 ASTM A234 Gr WPB / ANSI B16.9	3		
	3D						ASTM A 105/ ANSI B16.11			
TEES	3C						ASTM A 105/ ANSI B16.11			
	3B						ASTM A 234 Gr WPB / ANSI B16.9	2		
	3A	15x15				EQUAL TEE	ASTM A 234 Gr WPB / ANSI B16.9	4		
ELBOWS	2C						FORGED CS,SW TYPE 3000lbs. ASTM A 234 GrWPB / ANSI B 16.9			
	2B						ASTM A 105/ ANSI B16.11	2		
	2A	100				90° ELBOW	ASTM A 105/ ANSI B16.11	6		
PIPE	1D	80					CS,SMLS PIPES WITH PLAIN ENDS, & BW ENDS TO ANSI B16.25	1.25		
	1C	40						2.5		
	1B	15						0.6		
	1A	100					ASTM A106 Gr.B sch40 ANSI B36.10	4.0		
	1	150						26.25		

**BILL OF MATERIAL**

**Protech Consultants Pvt. Ltd.,**  
OFFICE: 173. T.T.K ROAD ALWARPET CHENNAI-600 018

**PIPING ISOMETRIC FOR  
IBR STEAM PIPING**

- NOTES:-
1. ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED
  2. ALL ELEVATIONS ARE IN METRES
  3. FOR GENERAL ARRANGEMENT OF PIPING LAYOUT REFER DRAWING NO: PC-19442-1 SHEET 1 TO 5
  4. FOR P& I DIAGRAM PC-19428-0

**MP STEAM**  
OPERATING PRESSURE = 9 Bar.  
DESIGN PRESSURE = 16 Bar.  
OPERATING TEMPERATURE = 180 °C  
DESIGN TEMPERATURE = 210 °C  
FLOW RATE = 6500 Kg/hr (Max.)

\* INCASE OF PREFABRICATION SUITABLE SITE ADJUSTMENT PROVISIONS SHALL BE MADE.

**CS2A**