


B	2008-08-26	Updated water pressure and Kv values	DsE
A	2008-07-17	1 st issue	DsE
REV	DATE	DESCRIPTION	SIGN
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="text-align: center;"> <h2>CCI Valve Technology AB</h2> </div> <div style="text-align: center;">  </div> </div>			
PREPARED BY	DATE	TITLE: Technical Specification for Tag no: 01/02-PGC18AA001	
DsE	2008-07-17		
CHECKED BY	DATE		
LgM	2008-07-25	DOCUMENT NUMBER: V297690.30	

Technical Specification.

Water pressure reducing valve equipment.

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Date / Rev. / User Id : 2008-07-17 / B / Dybeus, Erik
 Customer : Alstom / 744297 P12 73077 11324
 Project : Maritza East 1
 Inq. No. 744297 Amendment no.
 Reference No. VO297690
 Tag No. 01/02-PGC18AA001
 No. of valves 1

Operating data		100%Cooling	89% Cooling	100%Bypass	Design
Water Inlet					
Q1	[kg/h]	372000,0	372000,0	372000,0	10,00 55,0
p	[bar a]	5,50	5,50	5,50	
t	[°C]	27,0	27,0	27,0	
h	[kJ/kg]	113,6	113,6	113,6	
v	[m³/kg]	0,00100	0,00100	0,00100	
Water Cooling Outlet					
Q2	[kg/h]	372000,0	330000,0	0	10,00 55,0
p	[bar a]	5,21	5,17		
t	[°C]	27,0	27,0		
h	[kJ/kg]	113,6	113,6		
v	[m³/kg]	0,00100	0,00100		
Water Bypass Outlet					
QB	[kg/h]	0	42000,0	372000,0	10,0 55,0
p	[bar a]		5,40	5,28	
t	[°C]		27,0	27,0	
h	[kJ/kg]		113,6	113,6	
v	[m³/kg]		0,00100	0,00100	
Calculated data		100%Cooling	89% Cooling	100%Bypass	
Water Valve					
Kv calc Cooling / Bypass	[-]	685,2/0	569,8/131,8	0/786,7	
Inlet pipe	[DN]	250 STD			
Diam ID/OD/t	[mm]	254,46/273/9,27			
Inlet Velocity	[m/s]	2,0	2,0	2,0	
Outlet pipe	[DN]	250 STD			
Diam ID/OD/t	[mm]	254,46/273/9,27			
Outlet Velocity	[m/s]	2,0	2,0	2,0	
Bypass pipe	[DN]	250 STD			
Diam ID/OD/t	[mm]	254,46/273/9,27			
Bypass Velocity	[m/s]	2,0	2,0	2,0	

System design consideration CCI document "Installation Guidelines II500.0o/5en"

Selected CCI Water pressure reducing equipment.

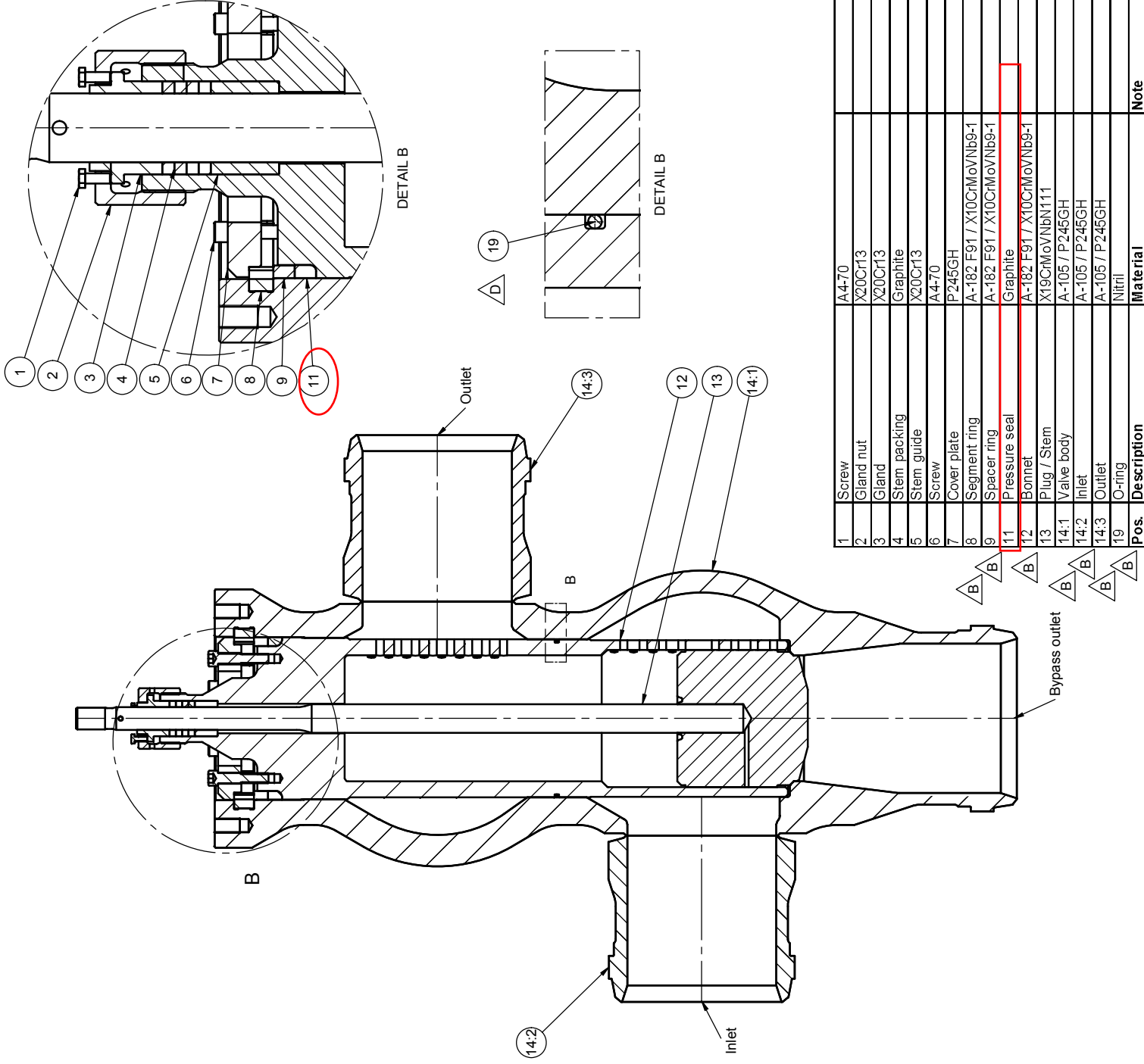
Reference No. VO297690

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Date / Rev. / User Id : 2008-07-17 / B / Dybeus, Erik

Tag No.		297690.30 01/02-PGC18AA001
Valve type		VHB - 200T3 Control Valve
Valve design		Double-seated
Seat		200
Leakage class		V Cooling mode, IV Bypass mode
Kvc	[-]	843,3
Kvs	[-]	843,3
Kv Bypass	[-]	786,7
Control plug type		Cage
Characteristic		Linear
Spare capacity	[%]	0
Full Stroke	[mm]	120
Actuating force	[kN]	56,7
Shut-off- Δp	[bar a]	N/A
Connections		
Inlet	[DN]	250 BWE
Rating		ASME B16.25, Fig. 2a
Outlet	[DN]	250 BWE
Rating		ASME B16.25, Fig. 2a
Bypass	[DN]	250 BWE
Rating		ASME B16.25, Fig. 2a
Materials		
Inlet		A-105
Body		A-105
Outlet		A-105
Bypass		A-105
Stem		X19CrMoVNbN111 (AISI 616)
Plug		X19CrMoVNbN111 (AISI 616)
Seat		Haynes 25
Packings		Graphite
Design code		ASME B16.34 B31.1
Actuator type		STI SC/V 390-150
Model		Pneumatic Piston
Stroke / MaxForce	[mm/kN]	150 / 57,0
Positioner / Air supply conn		STI SA/CL-EP / 1/4"
Stroking time Mod / QC		4,0 s / 4,0 s
Power supply		5,0 bar(g)
Input signal		4-20 mA
Increasing signal		Valve go to more Bypass mode
Power supply failure		Valve go to Cooling mode
Accessories		1 Air bottle 1 Trip valve 1 Solenoid valve 1 Air filter regulator 1 Limit switch opened 1 Limit switch closed

IND	ALTERATION	DATE	SIGN
B	Drawing view updated.	2008-07-02	SnA
C	Project Doc number corrected.	2008-07-29	LmS
D	Pos. 19 added. Text changed.	2009-02-06	SnA



3	09-02-08	SnA	OnM	SgM	Pos. 19 added. Text changed.	FUS
2	08-07-29	LmS	OnM	SgM	Project Doc number corrected.	FUS
1	08-07-02	SnA	OnM	SgM	Drawing view updated.	FUS
0	08-06-19	SnA	OnM	SgM	First issue	FUS
Rev.	Revision Date	Created by	Checked by	Approved by	Description	Status

Maritza East I Power Station

Company			
Space for stamp of Municipality of Galatovo		Space for further stamps	
Area for stamp of EOE Control OGD (CS)		Space for stamp of authorized Bulgarian Designer	
Main Contractor /		Partner of Main Contractor /	

ALSTOM
Power Generation AG
Power Boiler GmbH

Responsible dept.	CCI	Created by	SnA	Checked by	OnM	Approved by	SgM	Format	A2
Scale	-				Class no. (e.g. KKS)	for Company Review & Approval :			
Derived from	-	Replaces	-		Doc. Type	Yes / No			
Log of Legal Owner	-		-		DD	Document Status			
		Sub Contractors Doc Number		S134344		Released		Sub Site No.	
		Title, Subtitle		01/02-PGC18 AA001		Project Doc Number		MTZ/12/M/L/-----M24/DD/0/10	
		ALSTOM Power Turbo Systems		H2 generator cooling collector inlet		Rev.		Lang / Sheet	
						3		09-02-06 E 1/1	

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DRAWN 2008-06-19		SIGN SnA		VHB-200T3	
CHECKED 2009-02-06		SIGN ONM		Feedwater preheater bypass valve	
WAT.				Sectional drawing	
Order no.				S134344	
		REPLACES		REPLACED BY	