

**Highlights:**

• **We have offered following specifications for your given details:**

- 1) For Globe Valve,
  - Design Standard is as per ASME B16.34.
  - Face to face dimensions is as per ISA-S 75.
  - Seat Leakage Class IV as per FCI 70.2.
  
- 2) For Ball valve,
  - Design Standard for Trunnion Ball Valve is as per API 6D.
  - Face to face dimensions is as per B 16.32.
  - Seat Leakage Class as per API 598.
  
- 3) Low Fugitive Emission Packing is as per ISO 15848-2.
  
- 4) Against valve of Tag No.3-FV-1454, 3-LV-1401, 3-LV-1420 & 3-PV-1404, The service application found to be Flashing. For Flashing application, we have done selection as given below:
  - a) Trim Form offered is Contour Ported balance Cage guide.
  - b) Flow Direction is Over the plug.
  - c) To enhance the trim life, the hard facing of Full Stellite have been provided.
  - d) The trims have been offered as reduced port to enhance the life.
  
- 5) **Actuator**
  - Our Diaphragm Actuator suitable for Minimum supply pressure at 2.4 KG/CM2 & Maximum at 3.0 KG/CM2.
  - For Piston Actuator minimum required supply pressure is 6.0 KG/CM2.

• **We have offered Accessories as followed:**

- 1) Solenoid valve of Asco make Model No. NF8327B102 ((Ex proof IIC) with Class H Coli & SIL-3 Certified).
- 2) Proximity Limit switch with Internal switches of P & F & junction box of Rotex make Model No. DNLF 6A2 ((Junction Box Enclosure is Ex proof IIC) with SIL-2 Certified).

• **Painting**

- Painting as per manufacture's standard.
- Against valve of Tag No.3-XV-1499,we are unable to decode Actuator painting Orange5YR 6.5/11.

Please elaborate

- **Testing**

- For Globe Valve-Radiography test of body and bonnet as per B16.34.
- Positive Material Identification (PMI) test on Stainless Steel parts.
- For Globe Valve-Hydro (Shell) test as per ASME B 16.34.
- For Ball Valve-Hydro (Shell) test as per API 598.
- For Globe Valve- Material Test cetificates for Body & Bonnet is as per EN10204 3.1 and trim part as per 2.2.
- For Ball Valve- Material Test cetificates for Body & Side piece is as per EN10204 3.1 and Ball, Seat & Shaft as per 2.2.

- **Deviations:**

1) According to the following table:

Item No.	Tag No.	Valve size	Operating Temperature	Design Temperature
001	3-FV-1454	300 mm	193.4°C	220°C
002	3-LV-1401	350 mm	204.4°C	245°C
002-Alt	3-LV-1401	300 mm	204.4°C	245°C
003	3-LV-1420	400 mm	216.2°C	255°C
003-Alt	3-LV-1420	400 mm	216.2°C	255°C
004	3-PV-1404	350 mm	234.5°C	280°C
005	3-PV-1436	450 mm	224°C	300°C
005-Alt	3-PV-1436	450 mm	224°C	300°C
006	3-XV-1499	250 mm	227°C	300°C


Also the operating temperature are higher than 210<sup>0</sup>c, we have offered PEEK seat for Tag numbers indicated in above table. The maximum temperature limit for PEEK is 265°C. The operating temperature of all above tag are well below 234.5°C. however for tag no. 3-PV-1404, 3-PV-1436 & 3-XV-1499. design temperature are higher.

Please look into this matter. Confirm us wheather PEEK is acceptable.


- 2) Against valve of Tag No. 3-PV-1404 & 3-PV-1436, Due to higher thrust values we have offered valve with piston cylinder actuator instead of Diaphragm actuator.
- 3) Against valve of Tag No.3-XV-1499, Minimum stoke time of valve will be 6 to 7 secs instead of 1 sec.








DOCUMENT NO :										
CUSTOMER	SHARQ EG3				PLACE	Saudi Arabia				
YOUR REF					DATE	22-Oct-12				
OUR REF					DATE	22-Oct-12				
ITEM NO	6				QUANTITY	1 No				
TAG NO	3-FV-1454									
SERVICE APPLICATION										
PIPE LINE IN./OUT/SCH 350 mm/ 350 mm/ Schedule 40										
Service Condition	1	Fluid	Ethylene glycol/Water							
			Unit	Max	Nor	Min				
	2	Flow	Kg/hr	261700	218144	109072				
	3	Inlet Pressure	Kg/cm2	11.21	11.22	11.22				
	4	Outlet Pressure	Kg/cm2	4.11	4.11	4.11				
	5	DP Valve Sizing	Kg/cm2	7.104	7.11	7.115				
	6	Inlet Temperature	deg. C	193.4	193.4	193.4				
	7	Sp. Gravity		0.8866	0.8866	0.8866				
	8	MW								
	9	Vapour Pressure	Kg/cm2A	12.23	12.23	12.23				
	10	Critical Pressure	Kg/cm2A	225.6	225.6	225.6				
	11	Critical Temperature	deg. C							
	12	Viscosity Cp	Centipois	0.169	0.169	0.169				
	13	Corrected Cv	Usgpm	317.76	263.77	131.81				
	14	Selected Cv @	Usgpm	640	640	640				
	15	Flow Characteristics		EQ.%						
	16	Percentage Valve Opening		74	69	54				
	17	Predicted Noise Level	dBA	77.48	76.69	73.71				
	18	Final Noise Level	dBA	77.48	76.69	73.71				
19	Max Shut Off Dp	Kg/cm2	15							
Body & Trim	20	Dembla Series	1100							
	21	Model No.								
	22	Body Form	GLOBE SINGLE SEAT							
	23	Size Body / Size Trim	300 mm   200 mm							
	24	End Connections / Rating	FLANGED R.F.   300#							
	25	Body Material	A 216 GR. WCB							
	26	IBR Certification	Not Reqd.							
	27	Trim Form	CONTOUR PORTED BALANCE CAGE GUIDE							
	28	Trim Material	Plug/ Disc/ Ball   Facing	SS 316 FSF						
			Seat Ring   Facing	SS 316 FSF + PEEK						
			Guide /Large Guide							
			Cage /Seat Retainer	SS 316 FSF						
			Seal Ring							
	29	Flow Direction	OVER THE PLUG							
	30	Seat Leakage(FCI 70.2)	CLASS IV							
	31	Bonnet Type	EXTENDED FINNED							
	32	Gland Packing	GRAFOIL + LFE							
	Actuator	33	Actuator Type   Action	DIAPHRAGM   REVERSE ACTING						
		34	Valve Action Air Or Power To	OPEN						
35		Fail Safe Condition	FAIL TO CLOSE							
36										
37		Spring Range	0.4-2.0 KG/CM2							
38		Supply	2.4 KG/CM2							
39		Actuator Model	Rmp-44-108							
40		Valve Travel	108 mm							
41		Size(inch)²   Supply Connection	250   1/2" NPT							
42		Hand Wheel	NO							
Positioner	43	Model No.	AVP302-C							
	44	Positioner Type	ATEX Flameproof / HART protocol							
	45	Make	AZBIL corporation							
	46	Action	Direct							
	47	By Pass. / No of Gauges	With By Pass / 2 pcs of Gauge							
	48	Input Signal	4 - 20 mA							
	49	Output Signal								
	50	Supply Pressure								
	51	Pnu.Conn								
	52	Cable Entry								
	53	Enclosure								
I/P Converter	54	Model No.								
	55	Make								
	56	Input Signal								
	57	Output Signal								
	58	Pnu. Conn.								
	59	Cable Entry								
	60	Supply								
	61	Hsg. Material								
	62	Enclosure								
	Air Set	63	Model No.	KZ03-2B-XX						
		64	Quantity	1 pc						
		65	Make	AZBIL Corporation						
		66	Pnu. Conn.	1/4 NPT (F) screw.						
		67	Gauge							
		68	Body Moc.							
		69	Filter Size							
	Solenoid Valve	70	Model No.							
		71	Make							
		72	Type							
73		Pnu.Connection								
74		Cable Entry & Enclosure								
75		Body Moc.								
76		Voltage								
77		Ins. Class								
78	Man Override									
Limit Switch	79	Model No								
	80	Quantity								
	81	Make								
	82	Type								
	83	Contacts								
	84	Current Rating								
	85	Housing Moc.								
	86	Enclosure								
	87	Mounting Position								
C/F Flanges	88	Quantity								
	89	Type								
	90	Moc								
	91	IBR								
	92	Rating								
Nuts & Bolts		Nuts & Bolts	A 193 GR. B7/2H							
		Gasket	SS 316 sprial wound Graphite filled							
		Design Pressure	15 Bar							
		Design Temperature	220°C							
		Tubing,Fittings	SS 316							
Remark										




DOCUMENT NO :								
CUSTOMER	SHARQ EG3			PLACE			Saudi Arabia	
YOUR REF				DATE			22-Oct-12	
OUR REF				DATE	22-Oct-12			
ITEM NO	9				QUANTITY	1 No		
TAG NO	3-LV-1401(Alternative)							
SERVICE APPLICATION								
PIPE LINE IN./OUT/SCH 450 mm/ 450 mm/ Schedule 40								
Service Condition	1	Fluid	Ethylene glycol/Water					
			Unit	Max	Nor	Min		
	2	Flow	Kg/hr	401500	334557	167278		
	3	Inlet Pressure	Kg/cm2	15.23	15.23	15.23		
	4	Outlet Pressure	Kg/cm2	11.47	11.47	11.47		
	5	DP Valve Sizing	Kg/cm2	3.759	3.762	3.765		
	6	Inlet Temperature	deg. C	204.4	204.4	204.4		
	7	Sp. Gravity		0.8686	0.8686	0.8686		
	8	MW						
	9	Vapour Pressure	Kg/cm2A	16.23	16.23	16.23		
	10	Critical Pressure	Kg/cm2A	225.6	225.6	225.6		
	11	Critical Temperature	deg. C					
	12	Viscosity Cp	Centipois	0.146	0.146	0.146		
	13	Corrected Cv	Usgpm	406.17	339.23	169.50		
	14	Selected Cv @	Usgpm	640	640	640		
	15	Flow Characteristics		EQ.%				
	16	Percentage Valve Opening		79	75	59		
	17	Predicted Noise Level	dBA	49.645	48.870	45.878		
	18	Final Noise Level	dBA	49.645	48.870	45.878		
19	Max Shut Off Dp	Kg/cm2	20.5					
Body & Trim	20	Dembla Series		1100				
	21	Model No.						
	22	Body Form					GLOBE SINGLE SEAT	
	23	Size Body / Size Trim					300 mm   200 mm	
	24	End Connections / Rating					FLANGED R.F.   300#	
	25	Body Material					A 216 GR. WCB	
	26	IBR Certification					Not Reqd.	
	27	Trim Form					CONTOUR PORTED BALANCE CAGE GUIDE	
	28	Trim Material	Plug/ Disc/ Ball   Facing		SS 316 FSF			
			Seat Ring   Facing		SS 316 FSF + PEEK			
			Guide /Large Guide					
			Cage /Seat Retainer		SS 316 FSF			
			Seal Ring					
	29	Flow Direction					OVER THE PLUG	
	30	Seat Leakage(FCI 70.2)					CLASS IV	
	31	Bonnet Type					EXTENDED FINNED	
	32	Gland Packing					GRAFOIL + LFE	
	Actuator	33	Actuator Type   Action		DIAPHRAGM   REVERSE ACTING			
		34	Valve Action Air Or Power To					OPEN
35		Fail Safe Condition					FAIL TO CLOSE	
36								
37		Spring Range					0.6-2.2 KG/CM2	
38		Supply					2.6 KG/CM2	
39		Actuator Model					RMp-44-108	
40	Valve Travel					108 mm		
41	Size(inch)²   Supply Connection					250   3/8" NPT		
42	Hand Wheel					SIDE MOUNTED		
Positioner	43	Model No.					AVP302-C	
	44	Positioner Type					ATEX Flameproof / HART protocol	
	45	Make					AZBIL corporation	
	46	Action					Direct	
	47	By Pass. / No of Gauges					With By Pass / 2 pcs of Gauge	
	48	Input Signal					4 - 20 mA	
	49	Output Signal						
	50	Supply Pressure						
	51	Pnu.Conn						
	52	Cable Entry						
	53	Enclosure						
Remark	54	Model No.						
	55	Make						
	56	Input Signal						
	57	Output Signal						
	58	Pnu. Conn.						
	59	Cable Entry						
	60	Supply						
	61	Hsg. Material						
	62	Enclosure						
	I/P Converter	63	Model No.					KZ03-2B-XX
		64	Quantity					1 pc
65		Make					AZBIL Corporation	
66		Pnu. Conn.					1/4 NPT (F) screw.	
67		Gauge						
Air Set	68	Body Moc.						
	69	Filter Size						
	70	Model No.						
	71	Make						
	72	Type						
Solenoid Valve	73	Pnu.Connection						
	74	Cable Entry & Enclosure						
	75	Body Moc.						
	76	Voltage						
	77	Ins. Class						
Limit Switch	78	Man Override						
	79	Model No						
	80	Quantity						
	81	Make						
	82	Type						
C/F Flanges	83	Contacts						
	84	Current Rating						
	85	Housing Moc.						
	86	Enclosure						
	87	Mounting Position						
	88	Quantity						
	89	Type						
	90	Moc						
	91	IBR						
	92	Rating						
		Nuts & Bolts					A 193 GR. B7/2H	
		Gasket					SS 316 sprial wound Graphite filled	
		Design Pressure					20.5 Bar	
		Design Temperature					245°C	
		Tubing,Fittings					SS 316	


DOCUMENT NO :								
CUSTOMER	SHARQ EG3				PLACE			Saudi Arabia
YOUR REF					DATE			
OUR REF					DATE			22-Oct-12
ITEM NO	11					QUANTITY	1 No	
TAG NO	3-LV-1420							
SERVICE APPLICATION								
PIPE LINE IN./OUT/SCH		500 mm/ 500 mm/ Schedule 40						
Service Condition	1	Fluid	Ethylene glyco/Water					
			Unit	Max	Nor	Min		
	2	Flow	Kg/hr	534200	445210	222605		
	3	Inlet Pressure	Kg/cm2	19.93	19.93	19.93		
	4	Outlet Pressure	Kg/cm2	15.36	15.35	15.33		
	5	DP Valve Sizing	Kg/cm2	4.579	4.586	4.6		
	6	Inlet Temperature	deg. C	216.2	216.2	216.2		
	7	Sp. Gravity		0.852	0.852	0.852		
	8	MW						
	9	Vapour Pressure	Kg/cm2A	20.93	20.93	20.93		
	10	Critical Pressure	Kg/cm2A	225.6	225.6	225.6		
	11	Critical Temperature	deg. C					
	12	Viscosity Cp	Centipois	0.133	0.133	0.133		
	13	Corrected Cv	Usgpm	460.00	383.26	191.54		
	14	Selected Cv @	Usgpm	640	640	640		
	15	Flow Characteristics		EQ.%				
	16	Percentage Valve Opening		82	78	62		
	17	Predicted Noise Level	dBA	49.18	48.42	45.48		
	18	Final Noise Level	dBA	49.18	48.42	45.48		
19	Max Shut Off Dp	Kg/cm2	23.5					
Body & Trim	20	Dembla Series		1100				
	21	Model No.						
	22	Body Form						
	23	Size Body / Size Trim						
	24	End Connections / Rating						
	25	Body Material						
	26	IBR Certification						
	27	Trim Form						
	Trim Material	28	Plug/ Disc/ Ball   Facing		SS 316 FSF			
			Seat Ring   Facing		SS 316 FSF + PEEK			
			Guide /Large Guide					
			Cage /Seat Retainer		SS 316 FSF			
			Seal Ring					
	29	Flow Direction						
30	Seat Leakage(FCI 70.2)							
31	Bonnet Type							
32	Gland Packing							
Actuator	33	Actuator Type   Action		DIAPHRAGM   REVERSE ACTING				
	34	Valve Action Air Or Power To						
	35	Fail Safe Condition						
	36							
	37	Spring Range						
	38	Supply						
	39	Actuator Model						
	40	Valve Travel						
	41	Size(inch)²   Supply Connection						
	42	Hand Wheel						
Positioner	43	Model No.						
	44	Positioner Type						
	45	Make						
	46	Action						
	47	By Pass. / No of Gauges						
	48	Input Signal						
	49	Output Signal						
	50	Supply Pressure						
	51	Pnu.Conn						
	52	Cable Entry						
	53	Enclosure						
I/P Converter	54	Model No.						
	55	Make						
	56	Input Signal						
	57	Output Signal						
	58	Pnu. Conn.						
	59	Cable Entry						
	60	Supply						
	61	Hsg. Material						
	62	Enclosure						
	Air Set	63	Model No.		KZ03-2B-XX			
		64	Quantity		1 pc			
		65	Make		AZBIL Corporation			
66		Pnu. Conn.		1/4 NPT (F) screw.				
67		Gauge						
68		Body Moc.						
69		Filter Size						
Solenoid Valve	70	Model No.						
	71	Make						
	72	Type						
	73	Pnu.Connection						
	74	Cable Entry & Enclosure						
	75	Body Moc.						
	76	Voltage						
	77	Ins. Class						
78	Man Override							
Limit Switch	79	Model No						
	80	Quantity						
	81	Make						
	82	Type						
	83	Contacts						
	84	Current Rating						
	85	Housing Moc.						
	86	Enclosure						
	87	Mounting Position						
C/F Flanges	88	Quantity						
	89	Type						
	90	Moc						
	91	IBR						
	92	Rating						
			Nuts & Bolts		A 193 GR. B 8M/8M			
		Gasket		SS 316 sprial wound Graphite filled				
		Design Pressure		23.5 Bar				
		Design Temperature		255°C				
		Tubing,Fittings		SS 316				
Remark								

DOCUMENT NO :						PLACE		Saudi Arabia							
CUSTOMER		SHARQ EG3				DATE									
YOUR REF						DATE		22-Oct-12							
ITEM NO	11					QUANTITY	1 No								
TAG NO	3-LV-1420 (Alternative)														
SERVICE APPLICATION															
PIPE LINE IN./OUT/SCH		500 mm/ 500 mm/ Schedule 40													
Service Condition	1	Fluid		Ethylene glyco/Water							I/P Converter	54	Model No.		
		Unit	Max	Nor	Min	55	Make								
	2	Flow	Kg/hr	534200	445210	222605	56	Input Signal							
	3	Inlet Pressure	Kg/cm2	19.93	19.93	19.93	57	Output Signal							
	4	Outlet Pressure	Kg/cm2	15.36	15.35	15.33	58	Pnu. Conn.							
	5	DP Valve Sizing	Kg/cm2	4.579	4.586	4.6	59	Cable Entry							
	6	Inlet Temperature	deg. C	216.2	216.2	216.2	60	Supply							
	7	Sp. Gravity		0.852	0.852	0.852	61	Hsg. Material							
	8	MW					62	Enclosure							
	9	Vapour Pressure	Kg/cm2A	20.93	20.93	20.93									
	10	Critical Pressure	Kg/cm2A	225.6	225.6	225.6									
	11	Critical Temperature	deg. C												
	12	Viscosity Cp	Centipois	0.133	0.133	0.133									
	13	Corrected Cv	Usgpm	461.56	385.56	192.69									
	14	Selected Cv @	Usgpm	640	640	640									
	15	Flow Characteristics		EQ. %											
	16	Percentage Valve Opening		82	78	62									
	17	Predicted Noise Level	dBA	49.25	48.49	45.55									
	18	Final Noise Level	dBA	49.25	48.49	45.55									
19	Max Shut Off Dp	Kg/cm2	23.5												
Body & Trim	20	Dembla Series		1100							Air Set	63	Model No.		KZ03-2B-XX
	21	Model No.										64	Quantity		1 pc
	22	Body Form		GLOBE SINGLE SEAT								65	Make		AZBIL Corporation
	23	Size Body / Size Trim		300 mm   200 mm								66	Pnu. Conn.		1/4 NPT (F) screw.
	24	End Connections / Rating		FLANGED R.F.   300#								67	Gauge		
	25	Body Material		A 216 GR. WCB								68	Body Moc.		
	26	IBR Certification		Not Reqd.								69	Filter Size		
	27	Trim Form		CONTOUR PORTED BALANCE CAGE GU											
	28	Trim Material	Plug/ Disc/ Ball   Facing		SS 316 FSF										
			Seat Ring   Facing		SS 316 FSF + PEEK										
			Guide /Large Guide												
			Cage /Seat Retainer		SS 316 FSF										
	29	Flow Direction		OVER THE PLUG											
	30	Seat Leakage(FCI 70.2)		CLASS IV											
31	Bonnet Type		EXTENDED FINNED												
32	Gland Packing		GRAFOIL + LFE												
Actuator	33	Actuator Type   Action		DIAPHRAGM   REVERSE ACTING							Solenoid Valve	70	Model No.		
	34	Valve Action Air Or Power To		OPEN								71	Make		
	35	Fail Safe Condition		FAIL TO CLOSE								72	Type		
	36											73	Pnu.Connection		
	37	Spring Range		0.6-2.2 KG/CM2								74	Cable Entry & Enclosure		
	38	Supply		2.6 KG/CM2								75	Body Moc.		
39	Actuator Model		Rmp-44-108							76	Voltage				
40	Valve Travel		108 mm							77	Ins. Class				
41	Size(inch)²   Supply Connection		250   1/2"NPT							78	Man Override				
42	Hand Wheel		SIDE MOUNTED												
Positioner	43	Model No.		AVP302-C							Limit Switch	79	Model No		
	44	Positioner Type		ATEX Flameproof / HART protocol								80	Quantity		
	45	Make		AZBIL corporation								81	Make		
	46	Action		Direct								82	Type		
	47	By Pass. / No of Gauges		With By Pass / 2 pcs of Gauge								83	Contacts		
	48	Input Signal		4 - 20 mA								84	Current Rating		
	49	Output Signal										85	Housing Moc.		
	50	Supply Pressure										86	Enclosure		
	51	Pnu.Conn										87	Mounting Position		
	52	Cable Entry													
	53	Enclosure													
C/F Flanges										88	Quantity				
										89	Type				
										90	Moc				
										91	IBR				
										92	Rating				
									Nuts & Bolts		A 193 GR. B 8M/8M				
									Gasket		SS 316 sprial wound Graphite filled				
									Design Pressure		23.5 Bar				
									Design Temperature		255°C				
									Tubing,Fittings		SS 316				
Remark															

DOCUMENT NO :								
CUSTOMER		SHARQ EG3		PLACE	Saudi Arabia			
YOUR REF				DATE	22-Oct-12			
ITEM NO	15					QUANTITY	1 No	
TAG NO	3-PV-1404							
SERVICE APPLICATION								
PIPE LINE IN./OUT/SCH								
1		Fluid	Ethylene glycol/Water					
		Unit	Max	Nor	Min			
2	Flow	Kg/hr	656300	546925	273462			
3	Inlet Pressure	Kg/cm2	34.09	34.14	34.23			
4	Outlet Pressure	Kg/cm2	19.76	19.76	19.75			
5	DP Valve Sizing	Kg/cm2	14.34	14.39	14.49			
6	Inlet Temperature	deg. C	234.5	234.5	234.5			
7	Sp. Gravity		0.1823	0.1823	0.1823			
8	MW							
9	Vapour Pressure	Kg/cm2A	29.83	29.83	29.83			
10	Critical Pressure	Kg/cm2A	225.6	225.6	225.6			
11	Critical Temperature	deg. C						
12	Viscosity Cp	Centipois	0.12	0.12	0.12			
13	Corrected Cv	Usgpm	642.69	534.18	265.84			
14	Selected Cv @	Usgpm	1000	1000	1000			
15	Flow Characteristics		EQ. %					
16	Percentage Valve Opening		80	75	59			
17	Predicted Noise Level	dBA	78.84	78.07	75.11			
18	Final Noise Level	dBA	78.84	78.07	75.11			
19	Max Shut Off Dp	Kg/cm2	55.6					
20	Dembla Series		1100					
21	Model No.							
22	Body Form		GLOBE SINGLE SEAT					
23	Size Body / Size Trim		350 mm   250 mm					
24	End Connections / Rating		FLANGED R.F.   600#					
25	Body Material		A 351 GR. CF8M					
26	IBR Certification		Not Reqd.					
27	Trim Form		CONTOUR PORTED BALANCE CAGE GUIDE					
28	Trim Material	Plug/ Disc/ Ball   Facing	SS 316 FSF					
		Seat Ring   Facing	SS 316 FSF + PEEK					
		Guide /Large Guide						
		Cage /Seat Retainer	SS 316 FSF					
		Seal Ring						
29	Flow Direction		OVER THE PLUG					
30	Seat Leakage(FCI 70.2)		CLASS IV					
31	Bonnet Type		EXTENDED FINNED					
32	Gland Packing		GRAFOIL + LFE					
33	Actuator Type   Action		LINEAR PISTON S/A					
34	Valve Action Air Or Power To		OPEN					
35	Fail Safe Condition		FAIL TO CLOSE					
36								
37	Spring Range		2.0-4.0 KG/CM2					
38	Supply		6.0 KG/CM2					
39	Actuator Model		RPM-400-108					
40	Valve Travel		108 mm					
41	Size(inch)²   Supply Connection		250   1/2" NPT					
42	Hand Wheel		SIDE MOUNTED					
43	Model No.		AVP302-C					
44	Positioner Type		ATEX Flameproof / HART protocol					
45	Make		AZBIL corporation					
46	Action		Direct					
47	By Pass. / No of Gauges		With By Pass / 2 pcs of Gauge					
48	Input Signal		4 - 20 mA					
49	Output Signal							
50	Supply Pressure							
51	Pnu.Conn							
52	Cable Entry							
53	Enclosure							
Service Condition	54	Model No.						
	55	Make						
	56	Input Signal						
	57	Output Signal						
	58	Pnu. Conn.						
	59	Cable Entry						
	60	Supply						
	61	Hsg. Material						
	62	Enclosure						
	63	Model No.		KZ03-2B-XX				
	64	Quantity		1 pc				
	65	Make		AZBIL Corporation				
66	Pnu. Conn.		1/4 NPT (F) screw.					
67	Gauge							
68	Body Moc.							
69	Filter Size							
Body & Trim	70	Model No.						
	71	Make						
	72	Type						
	73	Pnu.Connection						
	74	Cable Entry & Enclosure						
	75	Body Moc.						
	76	Voltage						
	77	Ins. Class						
78	Man Override							
I/P Converter	79	Model No						
	80	Quantity						
	81	Make						
	82	Type						
	83	Contacts						
	84	Current Rating						
	85	Housing Moc.						
	86	Enclosure						
	87	Mounting Position						
Air Set	88	Quantity						
	89	Type						
	90	Moc						
	91	IBR						
	92	Rating						
Solenoid Valve	Nuts & Bolts		A 193 GR. B 8M/8M					
	Gasket		SS 316 sprial wound Graphite filled					
	Design Pressure		55.6Bar					
	Design Temperature		280°C					
	Tubing,Fittings		SS 316					
Limit Switch								
C/F Flanges								
Actuator								
Positioner								
Remark								

DOCUMENT NO :						PLACE		Saudi Arabia			
CUSTOMER		SHARQ EG3				DATE		22-Oct-12			
YOUR REF						DATE		22-Oct-12			
ITEM NO	16					QUANTITY	1 No				
TAG NO	3-PV-1436										
SERVICE APPLICATION											
PIPE LINE IN./OUT/SCH 450 mm/ 450 mm/ Schedule 40											
Service Condition	1	Fluid	Steam								
			Unit	Max	Nor	Min					
	2	Flow	Kg/hr	115000	95818	47909					
	3	Inlet Pressure	Kg/cm2	24.47	24.58	24.68					
	4	Outlet Pressure	Kg/cm2	23.46	23.57	23.67					
	5	DP Valve Sizing	Kg/cm2	1.02	1.02	1.02					
	6	Inlet Temperature	deg. C	224	224	224					
	7	Sp. Gravity									
	8	MW									
	9	Vapour Pressure	Kg/cm2A								
	10	Critical Pressure	Kg/cm2A								
	11	Critical Temperature	deg. C								
	12	Viscosity Cp	Centipois								
	13	Corrected Cv	Usgpm	1188.99	988.49	493.26					
	14	Selected Cv @	Usgpm	1950	1950	1950					
	15	Flow Characteristics					EQ.%				
	16	Percentage Valve Opening		79	74	58					
	17	Predicted Noise Level	dBA	86.66	85.90	82.91					
	18	Final Noise Level	dBA	71.66	70.90	67.91					
19	Max Shut Off Dp	Kg/cm2	27.5								
Body & Trim	20	Dembla Series		1100							
	21	Model No.									
	22	Body Form		GLOBE SINGLE SEAT							
	23	Size Body / Size Trim		450 mm   400 mm							
	24	End Connections / Rating		FLANGED R.F.   300#							
	25	Body Material		A 216 GR. WCB							
	26	IBR Certification		Not Reqd.							
	27	Trim Form		M. H. CAGE BALANCE							
	28	Trim Material	Plug/ Disc/ Ball   Facing		SS 431 HTH						
			Seat Ring   Facing		SS 431 HTH + PEEK						
			Guide /Large Guide								
			Cage /Seat Retainer		SS 431 HTH						
			Seal Ring								
	29	Flow Direction		UNDER THE PLUG							
30	Seat Leakage(FCI 70.2)		CLASS IV								
31	Bonnet Type		EXTENDED FINNED								
32	Gland Packing		GRAFOIL+ LFE								
Actuator	33	Actuator Type   Action		LINEAR PISTION D/A							
	34	Valve Action Air Or Power To		OPEN							
	35	Fail Safe Condition		FAIL TO CLOSE							
	36										
	37	Spring Range		-----							
	38	Supply		4.0 KG/CM2							
	39	Actuator Model		PD-300-178							
40	Valve Travel		178 mm								
41	Size(inch)²   Supply Connection		1/2" NPT								
42	Hand Wheel		NO								
Positioner	43	Model No.		AVP302-C							
	44	Positioner Type		ATEX Flameproof / HART protocol							
	45	Make		AZBIL corporation							
	46	Action		Direct							
	47	By Pass. / No of Gauges		With By Pass / 2 pcs of Gauge							
	48	Input Signal		4 - 20 mA							
	49	Output Signal									
	50	Supply Pressure									
	51	Pnu.Conn									
	52	Cable Entry									
	53	Enclosure									
I/P Converter	54	Model No.									
	55	Make									
	56	Input Signal									
	57	Output Signal									
	58	Pnu. Conn.									
	59	Cable Entry									
	60	Supply									
	61	Hsg. Material									
	62	Enclosure									
	Air Set	63	Model No.		KZ03-2B-XX						
		64	Quantity		1 pc						
		65	Make		AZBIL Corporation						
		66	Pnu. Conn.		1/4 NPT (F) screw.						
		67	Gauge								
68		Body Moc.									
69		Filter Size									
Solenoid Valve	70	Model No.									
	71	Make									
	72	Type									
	73	Pnu.Connection									
	74	Cable Entry & Enclosure									
	75	Body Moc.									
	76	Voltage									
	77	Ins. Class									
78	Man Override										
Limit Switch	79	Model No									
	80	Quantity									
	81	Make									
	82	Type									
	83	Contacts									
	84	Current Rating									
	85	Housing Moc.									
	86	Enclosure									
	87	Mounting Position									
C/F Flanges	88	Quantity									
	89	Type									
	90	Moc									
	91	IBR									
	92	Rating									
		Air Fail Back-up System		Air Fail Back-up System with Tank							
		Nuts & Bolts		A 193 GR. B7/2H							
		Gasket		SS 316 sprial wound Graphite filled							
		Design Pressure		27.5Bar							
		Design Temperature		300°C							
		Tubing,Fittings		SS 316							
Remark	1) VALVE WITH VOLUME TANK ARRANGEMENT.										

DOCUMENT NO :						PLACE		Saudi Arabia			
CUSTOMER		SHARQ EG3				DATE		22-Oct-12			
YOUR REF						DATE		22-Oct-12			
ITEM NO	16					QUANTITY	1 No				
TAG NO	3-PV-1436(Alternative)										
SERVICE APPLICATION											
PIPE LINE IN./OUT/SCH		450 mm/ 450 mm/ Schedule 40									
Service Condition	1	Fluid	Steam								
			Unit	Max	Nor	Min					
	2	Flow	Kg/hr	115000	95818	47909					
	3	Inlet Pressure	Kg/cm2	24.47	24.58	24.68					
	4	Outlet Pressure	Kg/cm2	23.46	23.57	23.67					
	5	DP Valve Sizing	Kg/cm2	1.02	1.02	1.02					
	6	Inlet Temperature	deg. C	224	224	224					
	7	Sp. Gravity									
	8	MW									
	9	Vapour Pressure	Kg/cm2A								
	10	Critical Pressure	Kg/cm2A								
	11	Critical Temperature	deg. C								
	12	Viscosity Cp	Centipois								
	13	Corrected Cv	Usgpm	1191.71	990.75	494.39					
	14	Selected Cv @	Usgpm	1950	1950	1950					
	15	Flow Characteristics					EQ.%				
	16	Percentage Valve Opening		79	74	58					
	17	Predicted Noise Level	dBA	86.67	85.91	82.92					
	18	Final Noise Level	dBA	71.67	70.91	67.92					
19	Max Shut Off Dp	Kg/cm2	27.5								
Body & Trim	20	Dembla Series		1100							
	21	Model No.									
	22	Body Form		GLOBE SINGLE SEAT							
	23	Size Body / Size Trim		400 mm   400 mm							
	24	End Connections / Rating		FLANGED R.F.   300#							
	25	Body Material		A 216 GR. WCB							
	26	IBR Certification		Not Reqd.							
	27	Trim Form		M. H. CAGE BALANCE							
	28	Trim Material	Plug/ Disc/ Ball   Facing		SS 431 HTH						
			Seat Ring   Facing		SS 431 HTH + PEEK						
			Guide /Large Guide								
			Cage /Seat Retainer		SS 431 HTH						
			Seal Ring								
	29	Flow Direction		UNDER THE PLUG							
30	Seat Leakage(FCI 70.2)		CLASS IV								
31	Bonnet Type		EXTENDED FINNED								
32	Gland Packing		GRAFOIL+ LFE								
Actuator	33	Actuator Type   Action		LINEAR PISTON S/A							
	34	Valve Action Air Or Power To		OPEN							
	35	Fail Safe Condition		FAIL TO CLOSE							
	36										
	37	Spring Range		2.0-4.0 KG/CM2							
	38	Supply		6.0 KG/CM2							
	39	Actuator Model		RPM-400-108							
40	Valve Travel		108 mm								
41	Size(inch)²   Supply Connection		250   1/2" NPT								
42	Hand Wheel		NO								
Positioner	43	Model No.		AVP302-C							
	44	Positioner Type		ATEX Flameproof / HART protocol							
	45	Make		AZBIL corporation							
	46	Action		Direct							
	47	By Pass. / No of Gauges		With By Pass / 2 pcs of Gauge							
	48	Input Signal		4 - 20 mA							
	49	Output Signal									
	50	Supply Pressure									
	51	Pnu.Conn									
	52	Cable Entry									
	53	Enclosure									
I/P Converter	54	Model No.									
	55	Make									
	56	Input Signal									
	57	Output Signal									
	58	Pnu. Conn.									
	59	Cable Entry									
	60	Supply									
	61	Hsg. Material									
	62	Enclosure									
	Air Set	63	Model No.		KZ03-2B-XX						
		64	Quantity		1 pc						
		65	Make		AZBIL Corporation						
		66	Pnu. Conn.		1/4 NPT (F) screw.						
		67	Gauge								
68		Body Moc.									
69		Filter Size									
Solenoid Valve	70	Model No.									
	71	Make									
	72	Type									
	73	Pnu.Connection									
	74	Cable Entry & Enclosure									
	75	Body Moc.									
	76	Voltage									
	77	Ins. Class									
	78	Man Override									
Limit Switch	79	Model No									
	80	Quantity									
	81	Make									
	82	Type									
	83	Contacts									
	84	Current Rating									
	85	Housing Moc.									
	86	Enclosure									
	87	Mounting Position									
C/F Flanges	88	Quantity									
	89	Type									
	90	Moc									
	91	IBR									
	92	Rating									
			Nuts & Bolts		A 193 GR. B7/2H						
		Gasket		SS 316 sprial wound Graphite filled							
		Design Pressure		27.5Bar							
		Design Temperature		300°C							
		Tubing,Fittings		SS 316							
Remark											

DOCUMENT NO :										
CUSTOMER		SHARQ EG3			PLACE				Saudi Arabia	
YOUR REF					DATE				22-Oct-12	
OUR REF					DATE		22-Oct-12			
ITEM NO	17				QUANTITY	1 No				
TAG NO	3-XV-1499									
SERVICE APPLICATION										
PIPE LINE IN./OUT/SCH 250 mm/ 250 mm/ Schedule 40										
Service Condition	1	Fluid	Steam			IP Convertor	54	Model No.		
			Unit	Max	Nor		Min	55	Make	
	2	Flow	Kg/hr					56	Input Signal	
	3	Inlet Pressure	Kg/cm2					57	Output Signal	
	4	Outlet Pressure	Kg/cm2					58	Pnu. Conn.	
	5	DP Valve Sizing	Kg/cm2					59	Cable Entry	
	6	Inlet Temperature	deg. C	227				60	Supply	
	7	Sp. Gravity						61	Hsg. Material	
	8	MW						62	Enclosure	
	9	Vapour Pressure	Kg/cm2A							
	10	Critical Pressure	Kg/cm2A							
	11	Critical Temperature	deg. C					63	Model No. KZ03-2B-XX	
	12	Viscosity Cp	Centipoise					64	Quantity 1 pc	
	13	Corrected Cv	Usgpm					65	Make AZBIL Corporation	
	14	Selected Cv @	Usgpm	5000				66	Pnu. Conn. 1/4 NPT (F) screw.	
	15	Flow Characteristics						67	Gauge	
	16	Percentage Valve Opening						68	Body Moc.	
	17	Predicted Noise Level	dBA					69	Filter Size	
	18	Final Noise Level	dBA							
19	Max Shut Off Dp	Kg/cm2	25.49			70	Model No. NF8327B102			
Body & Trim	20	Dembla Series	8200 F31			Air Set	71	Make ASCO		
	21	Model No.					72	Type 3/2 Way		
	22	Body Form	`O` BALL VALVE				73	Pnu.Connection 1/4"NPT[F]		
	23	Size Body / Size Trim	250 mm   250 mm				74	Cable Entry & Enclosure 1/2"NPT & Ex proof IIC		
	24	End Connections / Rating	FLANGED R.F.   300#				75	Body Moc. SS 316		
	25	Body Material	A 216 GR. WCB				76	Voltage 24 VDC		
	26	IBR Certification	Not Reqcd.				77	Ins. Class H (SIL-3 Certified)		
	27	Trim Form	`O` BALL				78	Man Override Nil		
	Trim Material	Ball	SS 316				Solenoid Valve	79	Model No DNLF 6A2	
		Seat	PEEK + SS 316					80	Quantity 2 NO.	
		Shaft	A 182 GR. F316					81	Make Internal switches of P & F make with Housing box of Rotex	
	29	Flow Direction	BIDIRECTION				82	Type PROXIMITY		
	30	Seat Leakage(FCI 70.2)	AS PER API 598				83	Contacts NON-CONTACT		
	31	Bonnet Type	EXTENDED				84	Current Rating 8VDC		
	32	Gland Packing	GRAFOIL + LFE				85	Housing Moc. SS 316		
	33	Actuator Type   Action	PISTON CYLINDER S/A				86	Junction Box Enclosure EXPROOF IIC		
	34	Valve Action Air Or Power To	OPEN				87	Mounting Position NAMUR (SIL-2 Certified)		
	35	Fail Safe Condition	FAIL TO CLOSE				Limit Switch	88	Quantity	
	36							89	Type	
37	Spring Range	SPRING RETURN			90	Moc				
38	Supply	6.0 KG/CM2			91	IBR				
39	Actuator Model	LPS-550-200-90°			92	Rating				
40	Valve Travel	0-90°			To Achieve Stroke Time (6-7 secs)					
41	Size(inch)²   Supply Connection	1/2" NPT			AFR					
42	Hand Wheel	No			Supply Connection/ Body Moc. 1/2" NPT / Aluminium					
Actuator	43	Model No.	AVP302-C			Volume Booster				
	44	Positioner Type	ATEX Flameproof / HART protocol			Supply Connection/ Body Moc. 3/4" NPT / Aluminium				
	45	Make	AZBIL corporation			Quick Exhaust valve				
	46	Action	Direct			Supply Connection/ Body Moc. 3/4" NPT / Aluminium				
	47	By Pass. / No of Gauges	With By Pass / 2 pcs of Gauge							
	48	Input Signal	4 - 20 mA							
	49	Output Signal								
	50	Supply Pressure								
	51	Pnu.Conn				Actuator Colour Orange				
	52	Cable Entry				Nuts & Bolts A 193 GR. B7/2H				
	53	Enclosure				Gasket SS 316 sprial wound Graphite filled				
						Design Pressure 27.5Bar				
						Design Temperature 300°C				
					Tubing,Fittings SS 316					
Positioner										
Remark										