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VALVE SPECIFICATION SHEETS

V12/sro	2004-09-01	V12/lf	V12/di	2004-09-10	IFR	FIRST ISSUE / FINAL ISSUE			
Name	Date	Name	Name	Date	Status				
Prepared, revised		Checked	Approved		Remark, kind of revision				
 Contractor: PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. شرکت طراحی و مهندسی صنایع پتروشیمی						Owner Project No:	Contractor Order No:	Q.L.	DCC
						232000	1182-POR-IN-644	-	-
							Vendor Order Ref.		
						616 100			
mg engineering Lurgi		Project Name			Lurgi Doc. No.	Vendor Doc. No.	Sheet / of	Revision	
		2nd ZAGROS METHANOL PLANT				SAM-110	1 / 13	00	

Item	Revision	Alternative	Tag	Terminal Box with 8 terminals - Ex ia IPE6	air set Norgren B74G-4AK-AP3- RMN 1/4"NPT Gauge	air set Norgren B74G-6AK3-AP3- RMN 3/4"NPT Gauge	tubing st.st. 1/2" fittings Swagelock, bug screens	Stroking time sec	Unit Price EURO / Net	Hook UP	
100-01	0	1	FV-100326	X	X		X	<10	3.303,00	18	*soft seat not suitable
100-02	0	1	FV-100406	X	X		X	<10	5.040,00	3	*with wearing tube
100-03	0	1	FV-100428			X	X	<20	11.463,00		
100-04	0	1	FV-100429		X		X	<10	3.614,00	4	
100-05	0	1	FV-100512		X		X	<20	3.592,00	4	
100-06	0	1	FV-100704	X	-	X	X	<20	15.533,00	20	closing time <5sec, opening time <20 sec
100-09	0	1	FV-100805	X		X		<20	27.701,00		*Silenser 10"/12" closing time <5sec, opening time <20 sec
100-10	0	1	FV-100807	X		X		<20	36.538,00		*Silenser 10"/16" closing time <5sec, opening time <20 sec
100-12	0	1	FV-100825	X		X	X	<20	11.371,00	21	with drain, connection 1" Cl.600
100-13	0	1	FV-100831	X	-	X	X	<20	8.219,00	21	with drain, connection 1" Cl.600
100-14	0	1	FV101019			2x	X	<5	23.818,00	25	closing time <2sec, opening time <5 sec
100-15	0	1	FV-101021	X	X		X	<10	3.597,00	26	
100-16	0	1	FV101039	X		2X	X	<5	23.626,00	25	closing time <2sec, opening time <5 sec
100-17	0	1	FV-101041	X	-	X	X	<10	5.123,00	20	
100-18	0	1	FV-101122	X	X		X	<10	3.426,00	27	
100-19	0	1	FV-101125	X	X		X	<10	3.987,00	27	
100-20	0	1	FV-101229A		-	X	X	<10	9.887,00	22	*3 steps multistage valve AC-3, stem WN 1.4548.3, split range
100-21	0	1	FV-101229B			X	X	<20	19.274,00	23	*Fisher type 122A
100-22	0	1	FV-101432		X		X	<5	7.913,00	1	steam connection 4" ANSI 600
100-23	0	1	FV-101433		X		X	<5	7.913,00	1	steam connection 4" ANSI 900
100-24	0	1	FV-101435		-	X	X	<5	18.553,00	1	steam connection 4" ANSI 2500
100-25	0	1	FV-101439		-	X	X	<5	25.315,00	1	* 3 plates - silencer 6"/8" / Qmax=19000 kg/h at P1=35bar, P2=32 bar Seat w. drain for Q=1-2 Vh
100-26	0	1	FV-101441			X	X	<10	31.740,00	1	

Item	Revision	Alternative	Tag	Terminal Box with 8 terminals Ex ia IP65	air set Noergren B74G-4AK-AP3- RMN 1/4"NPT Gauge	air set Noergren B74G-6AK3-AP3- RMN 3/4"NPT Gauge	tubing st.st.1/2" fittings Swagelock, bug screens	Stroking time sec	Unit Price EURO / Net	Hook UP	
100-27	0	1	LV100411		X		X	<10	4.097,00	4	
100-28	0	1	LV-100416		-	X	X	<10	11.133,00	1	
100-29	0	1	LV-101602		X		X	<10	1.909,00	10	
100-30	0	1	LV-101308		X		X	<10	2.409,00	4	
100-31	0	1	LV-101309		X		X	<10	3.151,00	4	
100-32	0	1	LV-101512A		X		X	<5	3.941,00	4	*3 steps multistage valve AC3
100-33	0	1	LV-101512B		X		X	<10	5.960,00	4	
100-34	0	1	PV-100201		X		X	<10	4.398,00	4	
100-35	0	1	PV-100513		X		X	<20	2.306,00	4	
100-36	0	1	PV-100529A		-	X	X	<10	7.958,00	1	*2 plates-silenser 3"/6"
100-37	0	1	PV-100529B		-	X	X	<10	7.958,00	1	*2 plates-silenser 3"/6"
100-38	0	1	PV-100801	X		X	X	<20	46.617,00		*w. silenser integratet in Valve
100-39	0	1	PV-101331						0,00		deleted
100-40	0	1	PV-101502A		X		X	<5	2.540,00	10	
100-41	0	1	PV-101502B		X		X	<5	2.602,00	4	
100-42	0	1	TV-100904A			X	X	<20	13.621,00		w. reduced stem
100-42A	0	1	TV-100904B			X	X	<20	13.705,00		w. reduced stem
100-43	0	1	TV-101204A/B			X	X	<20	46.716,00		2 butterflies w.mechanical coupling / w. reduced stem without T-piece, with drawing
100-45	1	1	PV-100110						0,00		deleted
100-46	0	1	FV-100416	X			X	<20	37.292,00		LN+HP / Closing time <5 sec
150-01	0	1	FV-150411		X		X	<5	2.016,00	10	
150-02	0	1	FV-150610		-	X	X	<5	9.533,00	1	steam connection 4" ANSI 900

Item	Revision	Alternative	Tag	Terminal Box with 8 terminals Ex ia IP65	air set Norgren B74C-4AK-AP3-RMN 1/4"NPT Gauge	air set Norgren B74C-6AK3-AP3-RMN 3/4"NPT Gauge	tubing st.st.1/2" fittings Swagelock, bug screens	Stroking time sec	Unit Price EURO / Net	Hook UP	
150-03	0	1	FV-150630		X		X	<5	8.119,00	1	steam connection 4" ANSI 900
150-04	0	1	FV-150636		-	X	X	<5	9.507,00	1	steam connection 4" ANSI 900
150-05	0	1	FV-150725		X		X	<5	8.196,00	1	steam connection 4" ANSI 600
150-06	0	1	LV-150101A			X	X	<20	12.299,00	23	*w. AC1 - Trim / **Fisher type 122A
150-06A	1	1	LV-150101B						0,00		deleted
150-07	0	1	LV-150406		X		X	<10	3.037,00	4	on-off function
150-08	0	1	LV-150505		X		X	<10	1.566,00	4	
150-09	0	1	PV-150101		X		X	<10	3.492,00	4	
150-10	0	1	PV-150601A		-	X	X	<5	28.533,00	5	opening time < 2 sec.; range / **3 plate-silenser 8"/10" / split Seat w. drain for Q=1-2 t/h
150-10A	0	1	PV-150601B		-	X	X	<5	7.729,00	1	
150-11	0	1	PV-150607		-	X	X	<10	25.944,00	5	**3 plate-silenser 8"/16"; close time < 10 sec.
150-11A	0	1	PV-150611			X	X	<5	21.999,00	1	*2 plate-silenser 6"/10" / Cl.1500 with drain, connection *
150-11B	0	1	PV-150612			X	X	<10	47.069,00	1	*5 plate-silenser 12"/20" / min. regulated flow 7800 kg/h / with drain, connection 1" Cl.900
150-12A	0	1	PV-150635A		-	X	X	<10	15.007,00	5	*bei Q=135 000 kg/h / opening time <5 sec
150-12B	0	1	PV-150635B		-	X	X	<10	15.007,00	5	*bei Q=135 000 kg/h / opening time <5 sec
150-13	0	1	PV-150707			X	X	<5	34.128,00	5	close time < 5sec.
200-03	0	1	LV-200301	X	-	X	X	<20	15.329,00	2	
200-04	0	1	LV-200403			X	X	<10	7.240,00	23	*Fisher type 122A
200-05	0	1	PV-200307A		-	X	X	<10	21.632,00	5	*4-plates silenser 6"/16"
200-06	0	1	PV-200307B		-	X	X	<10	8.717,00	1	*3-plates silenser 3"/8"
200-07	0	1	PV-200409			X	X	<20	16.934,00		
200-08	0	1	TV-200521A/B			X	X	<20	68.143,00		2 butterflies w.mechanical coupling / w. reduced stem without T-piece, with drawing

Item	Revision	Alternative	Tag	Terminal Box with 8 terminals Ex ia IP65	air set Norgren B74G-4AK-AP3- RMN 1/4"NPT Gauge	air set Norgren B74G-6AK3-AP3- RMN 3/4"NPT Gauge	tubing st.st. 1/2" fittings Swagelock, bug screens	Stroking time sec	Unit Price EURO / Net	Hook UP	
200-09	0	1	HV-200204	X		X	X	<20	53.477,00		*dP=0,15 bar / closing time <2 sec
200-10	0	1	HV-200503			X	X	<20	24.423,00		
200-11	0	1	HV-200214			X		<20	39.657,00		*silenser 12/16" closing time 30 sec
250-03	0	1	PV-250102A			X	X	<10	8.486,00	1	
250-04	0	1	PV-250103		X		X	<10	6.275,00	4	*3 plates-silenser 3"/6"
250-05	0	1	FV-250102		X		X	<10	1.901,00	4	
250-06	0	1	FV-250105		X		X	<10	3.273,00	4	
250-07	0	1	PV-250102B		X		X	<10	2.848,00	4	
300-01	0	1	FV-300101		X		X	<20	9.479,00		*w. reduced emission
300-02	0	1	FV-300203		X		X	<10	1.955,00	4	
300-03	0	1	FV-300305		X		X	<10	2.298,00	4	*w. reduced emission
300-04	0	1	FV-300306		X		X	<10	1.842,00	4	*w. reduced emission
300-05	0	1	FV-300408		-	X	X	<20	5.285,00	1	
300-06	0	1	FV-300510A		X		X	<20	5.052,00		*w.reduced emission / w. traveling stop
300-07	0	1	FV-300510B		X		X	<10	2.225,00	4	
300-08	0	1	FV-300611		X		X	<20	4.794,00		*w. reduced emission
300-09	0	1	FV-300920		X		X	<10	2.225,00	4	*w. reduced emission
300-10	0	1	LV-300101A		X		X	<20	3.200,00	4	*w. reduced emission
300-11	0	1	LV-300101B		X		X	<20	6.469,00		*w. reduced emission
300-12	0	1	LV-300202		X		X	<20	9.072,00		*w. reduced emission
300-13	0	1	LV-300203		X		X	<10	2.650,00	4	
300-14	0	1	LV-300305		X		X	<20	6.461,00		*w. reduced emission
300-15	0	1	LV-300406		-	X	X	<10	5.906,00	1	

Kommission Index	Auftragsposition	Item	Revision	Alternative	Tag	Qty	Style	Type	DN	Flange form/ connection	ANSI Class	Body material	Plug /seat material	bonnet	Packing	Pressure balance	Sealing protection	sealing	leakage	characteristic	Cv-value	Noise reduction	Sound pressure level	Flow direction	material+ functional certificate	Free of oil and grease for O2 w. 3.1B certificate	Actuator type	size	stroke	spring range	Fail safe position	Air supply min. bar g.	Handwheel	Mechanical stop	Booster 8523-0084	Booster type 2625	Quick-exh. Valve 8502-0144	Lock-up relais 3709-1	HART-Positioner 3780-100 Gauges IP65 Ex ia	HART-Positioner w. limit switches 3780-120 Gauges IP65 Ex ia	FF-Positioner 3787-100 Gauges IP65 Ex ia	FF-Positioner w. limit switches 3787-120 Gauges IP65 Ex ia	solenoid valve 3963-1353 24VDC Ex ia IP65 NPT 1/4"	solenoid valve 3963-1352 24VDC Ex ia IP65 NPT 1/4"																			
00	24	300-16	0	1	LV-300407	1	SS	3241	8"	RF-SF	300	A216 WCB	316Ti	std	P*	s	m	IV	log	290	-	76	FTO	3.1B		3271	1400	60	1,7...3,2	FC	4	-	X							X																							
00	14	300-17	0	1	LV-300508	1	SS	3241	4"	RF-SF	300	A216 WCB	316Ti	std	P*	s	m	IV	log	190	-	81	FTO	3.1B		3277	700	30	2,1...3,3	FC	4	-							X																								
02	11	300-18	0	1	LV-300609	1	SS	3251	3"	RF-SF	600	A216 WCB	316Ti	std	P	s	m	IV	log	75	-	58	FTO	3.1B		3271	1400	30	2...3	FC	4		X						X																								
00	20	300-19	0	1	LV-300910	1	SS	3241	6"	RF-SF	300	A216 WCB	316Ti	std	P*	s	m	IV	log	190	-	82	FTO	3.1B		3277	700	30	2,1...3,3	FC	4	-							X																								
00	28	300-20	0	1	PV-300101	1	SS	3241	4"	RF-SF	300	A216 WCB	316Ti	std	P		m	IV	log	190	-	81	FTO	3.1B		3277	700	30	1,4...2,3	FC	4							X																									
04	02	300-21	0	1	PV-300303A	1	BF	14c	6"	LRF-SF	300	A216 WCB	316SS	std	P*		m	V	log	729	-	79	FTO	3.1B		SRP 3000		70°	4	FC	4								X																								
04	02	300-22	0	1	PV-300303B	1	BF	14c	6"	LRF-SF	300	A216 WCB	316SS	std	P*		m	V	log	729	-	74	FTO	3.1B		SRP 3000		70°	4	FC	4								X																								
00	15	300-23	0	1	PV-300808	1	SS	3241	4"	RF-SF	300	A216 WCB	316Ti	std	P		m	IV	log	67	ST1	82	FTO	3.1B		3277	700	30	0,8...2,4	FL/FC	4				X						X																						
00	09	300-24	0	1	PV-300909A	1	SS	3241	4"	RF-SF	300	A216 WCB	316Ti	std	P*		m	IV	log	190	-	36	FTO	3.1B		3277	700	30	0,2...1	FO	4	-							X																								
00	02	300-25	0	1	PV-300909B	1	SS	3241	2"	RF-SF	300	A105	316Ti	std	P		m	IV	log	12	-	81	FTO	3.1B		3277	120	15	1,4...2,3	FL/FC	4				X					X																							
00	26	450-01	1	1	FV-450101	0																																																									
00	04	600-01	0	1	LV-600301	1	SS	3241	2"	RF-SF	300	A105	316Ti	std	P		m	IV	log	47	-	79	FTO	3.1B		3277	350	15	0,8...2,4	FC	4								-		X																						
-	-	100-181	0	1	PCV-100181	1	SOV	511K	1"	RF-SF	600	A316L	A316L	std	P		m	IV	std	0,5			-	FTO	3.1B		-	-	-	4...12	-	-																															
-	-	100-182	0	1	PCV-100182	1	SOV	511K	1"	RF-SF	600	A316L	A316L	std	P		m	IV	std	0,5				FTO	3.1B		-	-	-	4...12	-	-																															
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Item	Revision	Alternative	Tag	Terminal Box with 8 terminals Exe ia IP65	air set Norgren B74G-4AK-AP3- RMN 1/4"NPT Gauge	air set Norgren B74G-6AK3-AP3- RMN 3/4"NPT Gauge	tubing st.st. 1/2" fittings Swagelock, bug screens	Stroking time sec	Unit Price EURO / Net	Hook UP	
300-16	0	1	LV-300407		-	X	X	<20	5.952,00	1	*w. reduced emission
300-17	0	1	LV-300508		X		X	<20	2.410,00	4	*w. reduced emission
300-18	0	1	LV-300609		-	X	X	<10	4.133,00	1	
300-19	0	1	LV-300910		X		X	<20	3.372,00	4	*w. reduced emission
300-20	0	1	PV-300101		X		X	<10	2.225,00	4	
300-21	0	1	PV-300303A		X		X	<20	4.874,00		*w. reduced emission
300-22	0	1	PV-300303B		X		X	<20	4.874,00		*w. reduced emission
300-23	0	1	PV-300808		X		X	<20	2.522,00	22	
300-24	0	1	PV-300909A		X		X	<10	2.174,00	10	*w. reduced emission
300-25	0	1	PV-300909B		X		X	<10	1.677,00	22	-
450-01	1	1	FV-450101						0,00		deleted
600-01	0	1	LV-600301	X	X		X	<10	1.261,00	14	
100-181	0	1	PCV-100181						1.985,00		
100-182	0	1	PCV-100182						1.985,00		
							Total		1.283.591,00		

<u>Bauart/style</u>			<u>Druckentlastung /pressure balanced</u>		
SS	Einsitzdurchgang	Single Seat Globe Valve	-	ohne	without
3M	Dreiwege-Misch-Ventil	3-Way Mixing Valve	P	PTFE Druckentlastung	PTFE pressure balancing ring
3D	Dreiwege-Verteil-Ventil	3-Way Diverting Valve	G	Graphit Druckentlastung	Graphite pressure balancing ring
AV	Eckventil	Angle Valve	<u>Kennlinie / Characteristic</u>		
BF	Klappe	Butterfly Valve	log	gleichprozentig	equal percentage
BV	Kugelhahn	Ball Valve	lin	Linear	linear
RP	Drehkegel	Rotary Plug Valve	a/z	Auf / Zu	On / Off
DV	Membranventil	Diaphragm valve	<u>Geräuschreduzierung/noise reduction</u>		
SOV	Regler o. Hilfsenergie	self operating valve	-	ohne	without
<u>Flanschform/flange form</u>			ST1	Strömungsteiler I	flowdivider I
C	Form C Rz 63 ... 100	Form C Rz 63 ... 100	ST3	Strömungsteiler III	flowdivider III
D	Form D Rz 16 ... 40	Form D Rz 16 ... 40	3-stage	3 stufige Entspannung	3 stage expansion
E	Form E Rz < 16	Form E Rz < 16	5-stage	5 stufige Entspannung	5 stage expansion
N	Nut DIN 2512	groove DIN 2512	<u>Anströmrichtung/flow direction</u>		
R	Rücksprung DIN 2513	reset DIN 2513	FTO	gegen Schließrichtung	flow to open
RF	raised face Ra 3,2 ... 6,3	raised face Ra 3,2 ... 6,3	FTC	in Schließrichtung	flow to close
RTJ	ring type joint	ring type joint	<u>Ventiloberteil / Bonnet</u>		
LG	large groove	large groove	std.	standard	standard
SG	small groove	small groove	IT	Isolierteil	insulating section
BWE	Anschweißende	butt weld end	IT-L	langes Isolierteil	long insulating section
TP	Vorschuhende	transition piece	B	Metallbalgabdichtung	bellows section
<u>Stopfbuchse / Packing</u>			B-L	Metallbalgabdichtung mit zus. Isolierteil lang	bellows section with add. long insulating section
P	PTFE-Kohle federbelastet	PTFE carbon spring loaded	<u>Sicherheitsstellung / fail safe position</u>		
G	Graphit Form H (nachstellbar)	Graphite Form H (adjustable)	FC	Sicherheitsstellung Zu / Antriebsstange ausfahrend (FA) fail safe action close / stem extends (FC)	
W	Packung Form W (nachstellbar)	packing form W (adjust.)	FO	Sicherheitsstellung Auf / Antriebsstange einfahrend (FE) fail safe action open / stem retracts (FO)	
A	PTFE/Seidenschnur schwarz (nachstellbar)	PTFE/silk rope black (adjust.)	<u>Handrad/manual</u>		
B	PTFE/Seidenschnur weiß (nachstellbar)	PTFE/silk rope white (adjust.)	Top	oben	top
U	Univerdit /Alchem (nachstellbar)	Univerdit / Alchem (adjustable)	3273-5/6	seitlich mit Zwischenrahmen	side between two yokes
V	PTFE-weiß federbelastet	virgin PTFE spring loaded	side	seitlich	side mounted
<u>Panzerung/Sealing protection</u>			<u>Sonstiges/Additional</u>		
s	Dichtkantenstellitierung	Sealing surface stellited	O	öl-/fettfrei f. O2	oil-/greasefree for O2
c	Kegel Stellite / Sitz Dichtkanten stellitert	Plug Stellite/seat seal.surf.stellite	Cl	Chlor n. TVSK9305	Chlor acc. TVSK9305
h	gehärtet	hardened	S	silikonfrei	siliconfree
<u>Dichtkante / sealing surface</u>					
m	metallisch	Metal/metal			
w	weichdichtend	soft sealing			
e	eingeschliffen	lapped in			

Index of Revisions

Rev.	Sheet	Prepared, revised		Checked	Approved			Remark, kind of revision
		Name	Date	Name	Name	Date	Status	
00	1 of 13	V12/sro	2004-09-01	V12/lf	V12/di	2004-09-10	IFR	FIRST ISSUE / FINAL ISSUE

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