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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			
<p>Contractor:  PETROCHEMICAL INDUSTRIES DESIGN & ENGINEERING CO. شرکت طراحی و مهندسی صنایع پتروشیمی</p>						Owner Project No: 232000	Contractor Order No: 1182-POR-IN-644	Q.L. -	DCC -
							Vendor Order Ref. 616 100		
mg engineering Lurgi		Project Name 2nd ZAGROS METHANOL PLANT			Lurgi Doc. No.	Vendor Doc. No. SAM-110	Sheet / of 1 / 13	Revision 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	

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	Fall 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-Positroner 3780-100 Gauges IP65 Ex ia	HART-Positroner w. limit switches 3780-120 Gauges IP65 Ex ia	FF-Positroner 3787-100 Gauges IP65 Ex ia	FF-Positroner 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"						
02	10	100-27	0	1	LV100411	1	SS	3251	3"	RF-SF	600	A351 CF8C	316Ti	std	P			m	IV	log	70	-	54	FTO	3.1B		3277	700	30	2,1...3,3	FC	4									X									
02	25	100-28	0	1	LV-100416	1	SS	3251	6"	RF-SF	900	A351 CF8C	316Ti	std	G	G	s	m	IV	log	120	-	75	FTO	3.1B		3271	1400	30	1,2...2	FC	4		X			X			-										
00	06	100-29	0	1	LV-101602	1	SS	3241	2"	RF-SF	300	A351 CF8C	316Ti	std	P			m	IV	log	20	-	36	FTO	3.1B		3277	350	15	0,2...1	FO	4									X									
00	13	100-30	0	1	LV-101308	1	SS	3241	2"	RF-SF	300	A351 CF8C	440B	std	P			m	IV	log	5	-	30	FTO	3.1B		3277	350	15	0,2...1	FC	4										X								
00	18	100-31	0	1	LV-101309	1	SS	3241	3"	RF-SF	300	A351 CF8C	440B	std	P			m	IV	log	12	-	87	FTO	3.1B		3277	350	15	1,4...2,3	FC	4										X								
01	12	100-32	0	1	LV-101512A	1	SS	3251M*	2"	RF-SF	900	A216 WCB	440B	std	P			m	IV	log	5	-	75	FTO	3.1B		3277	700	15	1,6...2,4	FC	4		X (max.Hub=16,5mm)								X								
02	17	100-33	0	1	LV-101512B	1	SS	3251	4"	RF-SF	600	A351 CF8C	440B	std	P			m	IV	log	30	-	79	FTO	3.1B		3277	700	15	1,6...2,4	FC	4										X								
02	12	100-34	0	1	PV-100201	1	SS	3251	3"	RF-SF	900	A217 WC6	316Ti	B	P			e	V	log	42	ST1	74	FTO	3.1B		3277	700	30	2,1...3,3	FC	4									X									
00	12	100-35	0	1	PV-100513	1	SS	3241	4"	RF-SF	300	A216 WCB	316Ti	std	P			e	V	log	190	-	76	FTO	3.1B		3277	700	30	2,1...3,3	FC	4										X								
02	21	100-36	0	1	PV-100529A	1	SS	3251	3"	RF-SF	600	A216 WCB	316Ti	std	P		c	e	V	log	35	ST3	76*	FTO	3.1B		3271	1400	30	1,6...2,4	FC	4			X	-		X					-							
02	13	100-37	0	1	PV-100529B	1	SS	3251	3"	RF-SF	600	A216 WCB	316Ti	std	P		c	e	V	log	35	ST3	89*	FTO	3.1B		3271	1400	30	1,6...2,4	FC	4			X	-		X						-						
03	13	100-38	0	1	PV-100801	1	BV	QB	8"	RF-SF	600	A216 WCB	316L	std	P		s	m	VI	log	600		85*	FTO	3.1B	GP-100S-485/C1		-	80°	4	FC	4				X	X		X						-		2X			
-	-	100-39	0	1	PV-101331	0	BV																																											
02	01	100-40	0	1	PV-101502A	1	SS	3251	1"	RF-SF	600	A351 CF8C	316Ti	std	P			m	IV	log	3	-	49	FTO	3.1B		3277	350	15	0,2...1	FO	4											X							
02	02	100-41	0	1	PV-101502B	1	SS	3251	1"	RF-SF	600	A351 CF8C	316Ti	std	P		c	m	IV	log	0,75	-	75	FTO	3.1B		3277	350	15	0,4...2	FC	4											X							
03	04	100-42	0	1	TV-100904A	1	BF	LDE	14"	LRF-SF	600	A216 WCB	316SS	std	G			N	IV	log	2200	-	34	FTO	3.1B	GP-065S-335/C2		-	80°	4	FO	4				X	X									X				
03	05	100-42A	0	1	TV-100904B	1	BF	LDE	14"	LRF-SF	600	A216 WCB	316SS	std	G			N	IV	log	4575	-	61	FTO	3.1B	GP-065S-335/C2-MH		-	80°	4	FO	4	side			X	X									X				
03	06	100-43	0	1	TV-101204A/B	2	BF	WVTB	20/16"	LRF-SF	900	A217 WC6	316SS	IT	G			m	II	log	11495/6295		78	FTO	3.1B	GP-100S-485/DA+MH	Linkage	80°	4	FO	4	side			X											X				
03	14	100-45	1	1	PV-100110	0																																												
03	12	100-46	0	1	FV-100416	1	BF	LDE	12"	LRF-SF	600	A216 WCB	316SS	IT	G		s	m	V	log	591	X	103	FTO	3.1B	GP-085-385/C3		80°	4	FC	4				X	X						-		X				X		
00	08	150-01	0	1	FV-150411	1	SS	3241	2"	RF-SF	300	A351 CF8C	316Ti	std	P		c	m	IV	log	20	-	77	FTO	3.1B		3277	350	15	0,2...1	FO	6												X						
04	12	150-02	0	1	FV-150610	1	DS	DKV	2"	RF-SF	1500	A217 WC9	316Ti	std	P		s	e	V	log	9,5	-	68	FTC	3.1B		3271	1400	55	1,1...2,4	FC	4					X									X				

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

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	Fall safe position	Air supply min. bar g.	Handwheel	Mechanical stop	Booster 8523-0084	Booster type 2625	Lock-exh. Valve 8502-0144	Lock-up relais 3709-1	HART-Positoner 3780-100 Gauges IP65 Ex ia	HART-Positoner w. limit switches 3780-120 Gauges IP65 Ex ia	FF-Positoner 3787-100 Gauges IP65 Ex ia	FF-Positoner 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"				
04	10	150-03	0	1	FV-150630	1	DS	DKV	2"	RF-SF	1500	A217 WC9	316Ti	std	P		s	e	V	log	1,2	-	66	FTC	3.1B		3277	700	30	2,1...3,3	FC	4								X								
04	13	150-04	0	1	FV-150636	1	DS	DKV	2"	RF-SF	1500	A217 WC9	316Ti	std	P		s	e	V	log	5,7	-	63	FTC	3.1B		3271	1400	55	1,1...2,4	FC	4									X							
04	11	150-05	0	1	FV-150725	1	DS	DKV	2"	RF-SF	1500	A217 WC9	316Ti	std	P		s	e	V	log	2,3	-	83	FTC	3.1B		3277	700	30	2,1...3,3	FC	4									X							
00	27	150-06	0	1	LV-150101A	1	SS	3241	8"	RF-SF	300	A351 CF8C	316Ti	std	P		s	m	IV	log	420	-	80*	FTO	3.1B		3271	2800	60	2...2,6	FL/FC	4			X	X	X**	-				X						
00	22	150-06A	1	1	LV-150101B	0																																										
00	17	150-07	0	1	LV-150406	1	SS	3241	4"	RF-SF	300	A351 CF8C	316Ti	std	P		m	IV	log	190	-	56	FTO	3.1B		3277	700	30	1,4...2,3	FC	4											X						
00	01	150-08	0	1	LV-150505	1	SS	3241	2"	RF-SF	300	A105	316Ti	std	P		m	IV	log	20	-	51	FTO	3.1B		3277	350	15	0,8...2,4	FC	4											X						
00	21	150-09	0	1	PV-150101	1	SS	3241	6"	RF-SF	300	A216 WCB	316Ti	std	P		m	IV	log	275	ST1	85	FTO	3.1B		3277	700	30	2,1...3,3	FC	4							X										
01	05	150-10	0	1	PV-150601A	1	SS	3254	8"	RF-SF	1500	A217 WC9	440B	IT	G	G	-	m	IV	lin	650	ST1	94*	FTO	3.1B		3271	1400	60	1,7...3,2	FC	4			X	X		X										
02	20	150-10A	0	1	PV-150601B	1	SS	3251	3"	RF-SF	1500	A217 WC9	410	IT	G		s	m	IV	log	23	ST3	85	FTO	3.1B		3271	1400	15	2...2,4	FC	4			X			X										
01	04	150-11	0	1	PV-150607	1	SS	3254	8"	RF-SF	900	A217 WC6	410	IT	G	G	s	m	IV	log	375	ST1	86*	FTO	3.1B		3271	1400	60	1,4...2,7	FC	4			X	X		X										
02	28	150-11A	0	1	PV-150611	1	SS	3251	6"	RF-SF	1500	A217 WC9	410	IT	G		s	m	IV	lin	105	ST1	85*	FTO	3.1B		3271	2800	30	3,3...3,8	FC	4				X			X									
01	07	150-11B	0	1	PV-150612	1	SS	3254	12"	RF-SF	900	A217 WC6	410	IT	G	G	s	m	IV	lin	1040	ST1	84*	FTO	3.1B		3271	2800	120	0,8...2,4	FC	4				X			X									
01	01	150-12A	0	1	PV-150635A	1	SS	3254	8"	RF-SF	900	A217 WC6	410	IT	G	G		m	IV	lin	650	ST1	92*	FTO	3.1B		3271	1400	60	1,4...2,7	FC	4			X	X		X										
01	01	150-12B	0	1	PV-150635B	1	SS	3254	8"	RF-SF	900	A217 WC6	410	IT	G	G		m	IV	lin	650	ST1	92*	FTO	3.1B		3271	1400	60	1,4...2,7	FC	4			X	X		X										
01	06	150-13	0	1	PV-150707	1	SS	3254	16"	RF-SF	300	A216 WCB	410	IT	G	G	s	m	IV	lin	2080	ST1	92	FTO	3.1B		3271	2800	120	1,1...1,8	FC	4				X	X				X							
01	10	200-03	0	1	LV-200301	1	AV	3256	8"	RF-SF	600	A216 WCB	Stellite/440B	std	P	P		m	IV	log	120	-	97	FTC	3.1B		3271	1400	30	0,8...1,2	FC	4			X	-	-	-			X		X					
02	18	200-04	0	1	LV-200403	1	SS	3251	4"	RF-SF	900	A216 WCB	316Ti	std	P		s	m	IV	log	120	-	79	FTO	3.1B		3271	2800	30	2...2,4	FL/FC	4			X	X	X*	-			X							
02	27	200-05	0	1	PV-200307A	1	SS	3251	6"	RF-SF	600	A216 WCB	316Ti	std	P	P	s	e	V	log	220	ST3	89*	FTO	3.1B		3271	1400	60	0,8...2,4	FC	4			X	-	X					X						
02	24	200-06	0	1	PV-200307B	1	SS	3251	3"	RF-SF	600	A216 WCB	316Ti	std	P		s	e	V	log	35	ST3	85*	FTO	3.1B		3271	1400	30	1,6...2,4	FC	4			X							X						
03	07	200-07	0	1	PV-200409	1	BF	LDE	12"	LRF-SF	600	A216 WCB	316SS	std	G			m	IV	log	2515	-	88	FTO	3.1B	GP-085-385/C3				80*	4	FC	4				X	X					X					
03	08	200-08	0	1	TV-200521A/B	2	BF	LDE	24"/20"	LRF-SF	900	A351CF8C	316SS	std	P			m	IV	log	17500/8700	-	76	FTO	3.1B	GP-130S-535/DA	Linkage		80*	4	FO	4		-			X	X						X				

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

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	Fall 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"	
03	09	200-09	0	1	HV-200204	1	BF	LDE	18"	LRF-SF	900	A351CF8C	316SS	std	P			m	IV	log	6173	-	67	FTO	3.1B		GP-130S-535/C3		80°	4	FC	4								X	X			X			-	2X					
03	10	200-10	0	1	HV-200503	1	BF	LDE	8"	LRF-SF	900	F321/1.4541	316SS	std	G			m	IV	log	505		85	FTO	3.1B		GP-085S-385/C3-MH		80°	4	FC	4	side			X	X					X			-								
03	11	200-11	0	1	HV-200214	1	BF	LDE	12"	LRF-SF	900	A351CF8C	316SS	std	P			m	IV	log	2145		90°	FTO	3.1B		GP-085S-385/C3		80°	4	FC	4					X	-			X												
02	23	250-03	0	1	PV-250102A	1	SS	3251	4"	RF-SF	600	A216WCB	316Ti	B	P		s	m	IV	log	55	ST3	90	FTO	3.1B		3271	2800	30	2...2.4	FC	4					X	X					X										
00	25	250-04	0	1	PV-250103	1	SS	3241	3"	RF-SF	300	A216WCB	316Ti	B	P		c	e	V	log	23	ST3	79°	FTO	3.1B		3277	700	15	1.6...2.4	FC	4											X										
06	05	250-05	0	1	FV-250102	1	SS	3241	2"	RF-SF	300	A105	316Ti	B	P			m	IV	log	47		67	FTO	3.1B		3277	700	15	1.6...2.4	FC*	4												X									
02	04	250-06	0	1	FV-250105	1	SS	3251	2"	RF-SF	600	A216WCB	316Ti	B	P			m	IV	log	30		35	FTO	3.1B		3277	700	15	1.2...2.0	FC	4												X									
02	03	250-07	0	1	PV-250102B	1	SS	3251	2"	RF-SF	600	A216WCB	316Ti	std	P		s	m	IV	log	9	ST3	78	FTO	3.1B		3277	350	15	1.4...2.3	FC	4													X								
04	07	300-01	0	1	FV-300101	1	RV	72.1R	8"	RF-SF	150	A216WCB	1.4571	std	PG*		s	m	IV	log	1098	-	59	FTO	3.1B		R250v		75°	1.3...2.4	FC	4	-												X								
00	07	300-02	0	1	FV-300203	1	SS	3241	3"	RF-SF	300	A216WCB	316Ti	std	P		s	m	IV	log	95	-	73	FTO	3.1B		3277	350	15	1.4...2.3	FC	4															X						
00	11	300-03	0	1	FV-300305	1	SS	3241	4"	RF-SF	300	A216WCB	316Ti	std	P*		s	m	IV	log	75	-	76	FTO	3.1B		3277	700	30	0.8...2.4	FC	4															X						
00	03	300-04	0	1	FV-300306	1	SS	3241	3"	RF-SF	300	A216WCB	316Ti	std	P*			m	IV	log	47	-	78	FTO	3.1B		3277	350	15	1.4...2.3	FC	4															X						
02	15	300-05	0	1	FV-300408	1	SS	3251	6"	RF-SF	300	A216WCB	316Ti	std	P		s	m	IV	log	420	-	78	FTO	3.1B		3271	1400	60	1.4...2.7	FC	4	-			X											X						
04	03	300-06	0	1	FV-300510A	1	BF	14c	8"	LRF-SF	300	A516Gr.70	316SS	std	P*			m	IV	log	1447	-	61	FTO	3.1B		SRP 2000		70°	4	FL/FO	4	-			X		X										X					
00	10	300-07	0	1	FV-300510B	1	SS	3241	4"	RF-SF	300	A216WCB	316Ti	std	P			m	IV	log	120	-	80	FTO	3.1B		3277	700	30	1.4...2.3	FC	4	-																X				
04	01	300-08	0	1	FV-300611	1	BF	14c	8"	LRF-SF	150	A516Gr.70	316SS	std	P*			m	IV	log	1447	-	68	FTO	3.1B		SRP 2000		70°	4	FL/FO	4	-			X		X										X					
00	10	300-09	0	1	FV-300920	1	SS	3241	4"	RF-SF	300	A216WCB	316Ti	std	P*			m	IV	log	120	-	80	FTO	3.1B		3277	700	30	1.4...2.3	FC	4																		X			
00	19	300-10	0	1	LV-300101A	1	SS	3241	6"	RF-SF	300	A216WCB	316Ti	std	P*			m	IV	log	300	-	52	FTO	3.1B		3277	700	30	2.1...3.3	FC	4																X					
04	05	300-11	0	1	LV-300101B	1	RV	72.1R	6"	RF-SF	300	A216WCB	316Ti	std	PG*		s	m	IV	log	685	-	64	FTO	3.1B		R200		75°	0.4...1.2	FC	4	-																X				
04	06	300-12	0	1	LV-300202	1	RV	72.1R	8"	RF-SF	300	A216WCB	316Ti	std	PG*			m	IV	log	950	-	64	FTO	3.1B		R250v		75°	1.3...2.4	FC	4	-																X				
00	16	300-13	0	1	LV-300203	1	SS	3241	3"	RF-SF	300	A351CF8C	316Ti	std	P			m	IV	log	70	-	53	FTO	3.1B		3277	700	15	2.4...3.6	FC	4																	X				
04	04	300-14	0	1	LV-300305	1	RV	72.1R	6"	RF-SF	300	A216WCB	316Ti	std	PG*			m	IV	log	275	-	57	FTO	3.1B		R200		75°	0.4...1.2	FL/FO	4												X									
02	16	300-15	0	1	LV-300406	1	SS	3251	4"	RF-SF	600	A351CF8C	316Ti	std	P			m	IV	log	120	-	59	FTO	3.1B		3271	1400	30	1.6...2.4	FC	4											X										

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	

Item	Revision	Alternative	Tag	Terminal Box with 8 terminals Exx 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 stellitiert	Plug Stellite/seat seal.surf.stellite hardened	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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