



Mokveld Valves bv

Data Sheet

Client : Lurgi Oel Gas Chemie
P.O. no. : 4553127 – 000 / 1.69666 / 136
End user : Zagros Petrochemical Company
P.O. no. :

Document no. : 34986-002
Rev. : 0
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Prepared : CGUN
Checked : ADUI
Approved : ADs

Mokveld serial no.

Location

34986-001

MUG-20-20-001

LURGI

Piping Engineering
Special Item
Non-slam Check Valve
Data Sheet

69666-01-GEM
4th Methanol Plant
MegaMethanol Iran

01	Ident. No.	20SPV001	Special Item No.	
02	Designation	Non-slam Check Valve		

Conditions of service:

Mode of operation	Normal	Rated	Reduction
Operating pressure P_A [bar _{abs}]	76.6	82.8	6
Operating temperature t_A [°C]	147	157	180
Flow rate m ³ /h standart conditions ¹⁾	575154	604000	60000
Density at operating conditions [kg/m ³]	14.51	25.69	4.7
Molar mass M Kg/Kmol	11.40	11.40	28
Compressibility	1.038	1.041	1.000
¹⁾ stand. Conditions	15°C	1.01325 bar	

The valve must be designed to handle all three operating cases at full opening and a stable position

Details of Design:

- The valve disc shall be manufactured in one piece of material AISI 316
- The shaft surface of the valve disc shall be fine finished/polished in axial direction
- A short shaft in combination with SS/SS for shaft and bushing must be avoided
- The manufacturer must confirm in writing, that no hammering occurs in all operating cases, in particular during minimum operation
- The manufacturer shall present a graph showing the pressure differential as function of the mass flow

Remarks by Mokveld

- Valve is installed under an angle of 45°, flow direction upwards



Designation	Basis document	DG	DL-Nr.	DCC
Unit 200 (Methanol Synthesis)				-
Project Name	Project-No.	Document-No.	Sheet/of	Revision
MegaMethanol Iran	69666-01	696660131286	5 / 5	1

LURGI		Piping Engineering Special Item Non-slam Check Valve Data Sheet				69666-01-GEM 4th Methanol Plant MegaMethanol Iran						
01	Ident. No.	20SPV001		Special Item No.								
02	Designation	Non-slam Check Valve										
03	Component key No./Var.	26600000-0002		Ident. No. Customer								
04	Piping Engineering (by LURGI)			Completed: PHJ		Date: 16.12.02						
05	Location	MUG-20-02-001		P&I-diagram		202						
06	Regulations	<input type="checkbox"/> AD-Merkblatt <input checked="" type="checkbox"/> API <input type="checkbox"/>		Unit No.		200						
07	Additional regulations			Allowable working pressure		88 bar						
08	Direction of flow	<input type="checkbox"/> horizontal <input checked="" type="checkbox"/> diagonal- upwards		Allowable working temperature		200 °C						
09	Installation	<input type="checkbox"/> Suction piping <input checked="" type="checkbox"/> Discharge piping		Connection criterion		Piping class NE1 DN NPS 16" PN Class 900						
10	Dimensions of piping	Outside diameter		mm								
11		Wall thickness		mm								
12				Standard		<input type="checkbox"/> DIN <input checked="" type="checkbox"/> ASME B 16.5						
13				Proposed material (body)		A 182 GR.F321-3.1B						
14	Process Data											
15	Fluid	Make Up Gas			Operating pressure P_A		2) bar					
16					Operating temperature t_A		2) °C					
17	Condition	<input type="checkbox"/> liquid <input checked="" type="checkbox"/> gas			Max. total constant		3) bar					
18	and	<input type="checkbox"/> vapour			back pressure variable		bar					
19	properties				Discharge flow		<input checked="" type="checkbox"/> constant <input type="checkbox"/> pulsating					
20	of the fluid	Corrosive matter			CO ₂ + H ₂ O							
21					Flow rate		2) kg/h					
22	Piping	Open port area			m ²		Density at operating conditions 2) kg/m ³					
23		Velocity			m/s		Molar mass M 2) kg/kmol					
24	Special corrosion protection											
25	Completed:	Date:			Modified on Rev.:		Date:					
26	Approved:	Date:			Approved:		Date:					
27	Construction features											
28	Manufacturer	Mokveld Valves B. V.			Material	Body		ASTM A351 Gr CF8C		Test certificate acc. to EN 10204	3.1B	1
29	Manufacturer's type	TKZ-Y-0				Jet		n. a.				
30	Type test approval by					Bolts, nuts		n. a.				
31	DN	PN		Valve Disc		ASTM A182 UNS S31803						
32	NPS	Class		Seat ring		ASTM A182 UNS S31803						
33	Facing	DIN		RF		ASME		B 16.5				
34	Open port area	m ²			Special constructive features		2)					
35	Total spring force	N			Face to face dimension		acc. to Mokveld Std.		558 mm		1	
36	Opening pressure	bar					acc. to		mm			
37	Inherent pressure drop	bar					acc. to ASME B16.10		mm			
38	Dimensions	L	558 mm	b	95,3 mm	Weight		885 kg/piece		1		
39		D	704,9 mm			No. required		In service 1 Piece		Spares 0 Piece		
40					Total quantity		1 Piece					
↑ The marked rows are to be completed by the manufacturer, when not specified by Lurgi Remarks 1) Marking durable on flange and on name-plate All pressure data indicated are gauge pressures <input type="checkbox"/> Mark if applicable 2) conditions of service and design see attached sheet 3) operat. Press. - press. Loss : max. allowed pressure drop across valve = 0.2 bar												
Row revised under Rev. No. ↑												
1	4	TUD	10.02.03	KAUL	HENS	11.02.03	FI	First issue				
Rev.	Sheet	Name	Date	Name	Name	Date	Status	Remark, kind of revision				
		Prepared, revised		Checked		Approved						
Designation							Basis document		DG	DL-Nr.	DCC	
Unit 200 (Methanol Synthesis)												
Project Name							Project-No.		Document-No.		Sheet/of	Revision
MegaMethanol Iran							69666-01		1696660131286		4 / 5	1