

LURG P.O. NO.:
4567967-003 / 1.69690 / 136
2nd ZAGROS
METHANOL PLANT
IRAN
Project-No.: 1.69690-10

Check Valves
Documentation

KLAUS
P.O.NO.: HH - 02539-02

Lurgi Item	Ident No.	Material No.	Valve Type	Ends	Material	Seal / Disc	x-raying	BW Sched.	Class	Special	Size	Pieces	Decreased Rev.01	Increased	Rev. Total
00270	002	RK360	1010338	Swing Check Valve, BC, RF		A 216 WCB	mind. 13% Cr		150		2"	2			2
00280	002			Delivery FCA Bochum											1

Certificado de Pruebas

Test report

1

FLUVAL

50049 3-1-B

Certificate according to EN 10204 3.1

Cliente:

Customer: HI-FLOW VALVES LTD

Pedido N°:

Order No.: 8597

Fecha:

Date: 22/11/2004

Nuestro Pedido:

Our Order:

Pos. Item	Cantidad Quantity	Paso Size	Descripción Description	Presión nom. Pressure rating
18	50	2"	CHECK VALVE 150LB RF ASTM A216 GR WCB/F6HFS TO NACE MR-01-75	150LB

Estas válvulas se sometieron a prueba de acuerdo con lo establecido en las normas siguientes:
These valves were inspected in accordance with the following regulations:

API 598

Válvulas completas Retencion valves	Fluido Fluid	Presión Pressure	Duración en minutos de la prueba Test period in minutes
Prueba de resistencia Hydrostatic shell test	Agua Water	31BARS	1MINUTE
Prueba casquillo-tope Back-seat test			
Prueba de cierre Hydrostatic seat test	Agua Water	22BARS	1MINUTE
Prueba neumática Air test			

Las válvulas inspeccionadas de acuerdo con las normas indicadas, cerraban absolutamente y estaban en las mejores condiciones.
The valves inspected according to these regulations sealed absolutely and were in best condition.

Check valves according to Pressure Equipment Directive 97/23/CE, Certificate No 002# Notified Body No 0094
Valvulas de Retencion de acuerdo con Pressure Equipment Directive 97/23/CE, Certificado No 002# Notified Body No 0094

Fecha: Date:	V°B°: Conformity:	Laboratorio: Laboratory:	Certificado N°: Certificate No.
20/11/2004	Lorenzo Lazaro	Sebastian Torres	SHV0885

Certificado de Materiales

Materials Certificate

50049 3-1-B

2

FLUVAL

Certificate according to EN 10204 3.1

Cliente:
Customer: HI-FLOW VALVES LTD

Pedido N°:
Order No.: 8597

Fecha:
Date: 22/11/2004

Nuestro Pedido:
Our Order:

Pos. Item	Cantidad Quantity	Paso Size	Designación de piezas Identification of parts	Especificación del material Material specification	
				Body	Bonnet
18	50	2"	C040990-H185.	S711	S699
			C040990-H186.H216.H227.H230	✗ S699	S699 ✗
			C040990-H187.H188.H190-H195.H198-H200. H202.H206-H212.H215.H219.H220.H223-H225.H231.H233.	S699	S699
			C040990-H228.H229.H234.	S669	S699
			C040990-H189.	S579	S699
			C040990-H196.H203.H205.	S669	S579
			C040990-H204.	S699	S526
			C040990-H213.	S699	S889
			C040990-H214.	S019	S699
			C040990-H217.	S699	S0677

Características mecánicas - Physical Properties

Colada N° Heat No.	Carga de rot. Tensile Strength N/mm²	Lim. de elast. Yield point N/mm²	Alargamiento Elongation %	Estricción Reduct. of area %	Dureza Brinell Brinell Hardness	Resiliencia	
						Impact. value kgm.	Temperatura
S019	500	300	26	39	150		
S0677	500	295	27	42	157		
S526	495	290	28	38	163		
S579	510	288	30	40	168		
S669	510	305	25	42	163		
S699	486	267	25	39	157		
S711	495	290	30	37	159		
S889	500	301	26	39	169		

Análisis químico % - Chemical Analysis %

Colada N° Heat No.	C	Mn	Si	P	S	Cr	Ni	Mo	Cu	V
S019	0.21	0.70	0.36	0.021	0.023	0.05	0.03	0.05	0.03	0.002
S0677	0.22	0.78	0.39	0.025	0.016	0.05	0.04	0.03	0.02	0.002
S526	0.20	0.73	0.38	0.026	0.019	0.06	0.04	0.02	0.05	0.005
S579	0.22	0.80	0.41	0.022	0.023	0.09	0.01	0.01	0.01	0.001
S669	0.22	0.78	0.37	0.024	0.016	0.05	0.03	0.04	0.02	0.002
S699	0.20	0.77	0.39	0.020	0.014	0.05	0.03	0.02	0.06	0.003
S711	0.20	0.76	0.37	0.019	0.016	0.09	0.06	0.02	0.06	0.009
S889	0.19	0.80	0.36	0.012	0.025	0.06	0.06	0.02	0.05	0.001

Fecha: Date:	VºBº: Conformity:	Laboratorio: Laboratory:	Certificado N°: Certificate No.
22/11/2004	Lorenzo Lazaro	Sebastian Torres	SPV0885

Certificado de Materiales

Materials Certificate

50049 3-1-B

2

FLUVAL

Cliente:

Customer: HI-FLOW VALVES LTD

Pedido N°:

Order No.: 8597

Fecha:

Date: 22/11/2004

Nuestro Pedido:

Our Order:

Pos. Item	Cantidad Quantity	Paso Size	Designación de piezas Identification of parts	Especificación del material Material specification	
				Body	Bonnet
18	50	2"	C040990-H201.H218.H232.	S665	S699
			C040990-H221.	S689	S689
			C040990-H222.	S565	S699
			C040990-H226.	S699	S665
			C040990-H197.	S699	S579

Características mecánicas - Physical Properties

Colada N° Heat No.	Carga de rot. Tensile Strenght N/mm ²	Lim. de elast. Yield point N/mm ²	Alargamiento Enlongation %	Estricción Reduct. of area %	Dureza Brinell Brinell Hardness	Resiliencia	
						Impact. value kgm.	Temperatura
S565	516	289	30	40	168		
S665	502	301	26	37	148		
S689	500	299	26	38	157		
S699	486	267	25	39	157		

Análisis químico % - Chemical Analysis %

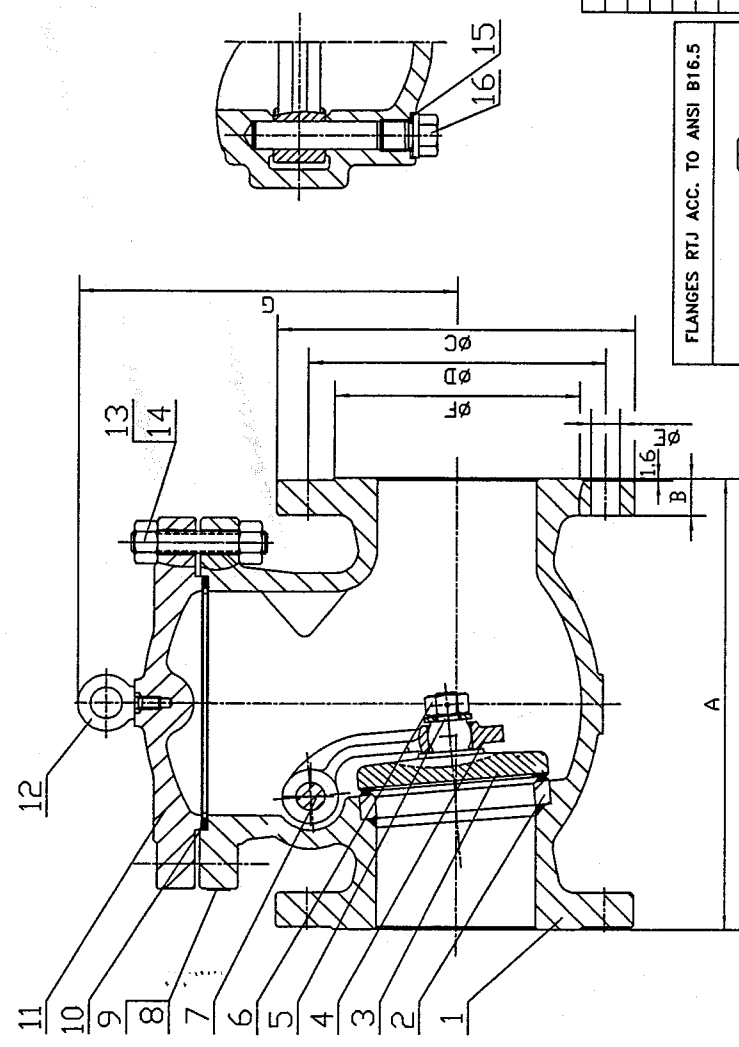
Colada N° Heat No.	C	Mn	Si	P	S	Cr	Ni	Mo	Cu	V
S565	0.22	0.81	0.37	0.022	0.021	0.10	0.01	0.01	0.01	0.001
S665	0.20	0.78	0.40	0.012	0.023	0.09	0.03	0.02	0.05	0.002
S689	0.19	0.85	0.36	0.013	0.023	0.05	0.06	0.04	0.02	0.002
S699	0.20	0.77	0.39	0.020	0.014	0.05	0.03	0.02	0.06	0.003

Fecha: Date:	V°B°: Conformity:	Laboratorio: Laboratory:	Certificado N°: Certificate No.:
22/11/2004	Lorenzo Lazaro	Sebastian Torres	SHV0885

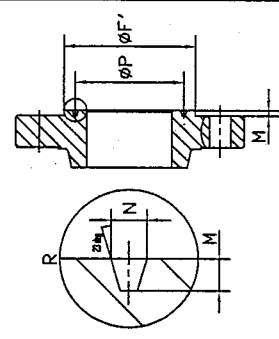
-VALVE ACCORDING TO BS1868
 -END TO END ACCORDING TO ANSI B16.10
 -FLANGED ACCORDING TO ANSI B16.5 (UP TO 24")
 -FLANGED ACCORDING TO MSS SP-44 (OVER 24")

TEST PRESSURE TO API 598
 -SHELL: 30 BAR -SEAT: 21.6 BAR

KKS No.:

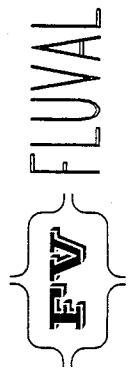


FLANGES RTJ ACC. TO ANSI B16.5



SIZE	A	B	C	D	No. OF HOLES	E	F	G	Weight(Kg)
2"	203	16	152	120.5	4	19	92	135	17
3"	241	19	190	152.5	4	19	127	138	29
4"	292	24	229	190.5	8	19	157	235	42
6"	356	26	279	241.5	8	22	216	277	74
8"	495	29	343	298.5	8	22	270	339	108
10"	622	31	406	362	12	25	324	398	177
12"	698	32	483	432	12	25	381	525	282
14"	787	35	533	476	12	29	413	553	372
16"	864	37	597	540	16	29	470	584	570
18"	978	40	635	578	16	32	533	668	665
20"	978	43	699	635	20	32	584	712	900
24"	1295	48	813	749.5	20	35	692	740	1359
26"	1295	68.4	870	806.5	24	35	749.3	740	1750
28"	1448	71.4	927	863.5	28	29	800.1	760	2015
30"	1524	74.7	984	914.4	28	29	857.3	840	2860
36"	1956	90.5	1168	1085.9	32	32	1022.4	950	4140
42"	2038	96.8	1346	1257.3	36	32	1193.8	1090	5635

ITEM	NAME	MATERIAL	SPECIFICATION	NOTE
16	PLUG	STAINLESS STEEL	ASTM A276-410	
15	GASKET	STAINLESS STEEL	ASTM A276-304	
14	BOLT	STEEL	ASTM A193-B7	
13	NUT	STEEL	ASTM A194-2H	
12	EYEBOLT	CARBON STEEL	ASTM A29-1035	
11	BONNET	CAST STEEL	ASTM A216 WCB	
10	GASKET	CORRUGATED SOFT IRON		
9	NAME PLATE	STAINLESS STEEL	18-8 Cr.-Ni.	
8	RIVET	STAINLESS STEEL	18-8 Cr.-Ni.	
7	PIN	STAINLESS STEEL	ASTM A276-410	
6	NUT	STAINLESS STEEL	ASTM A276-410	
5	GASKET	STAINLESS STEEL	ASTM A276-410	
4	HINGE	CAST STEEL	ASTM A216 WCB	
3	DISC	CARBON STEEL	13% CHROME	
2	BODY RING	CARBON STEEL	STELLITE Gr6	
1	BODY	CAST STEEL	ASTM A216 WCB	



PROJECT: -----		DATE: 10/08/01		NAME: J.F.	
REF: -----		TRACED		CHECKED	
F.V. REF: -----		SCALE: ----		DRAWING No: SW150RFTJWCBF6	
ITEM: -----		REV: 0		CLASS-150	
DATE: 10/08/01		NAME: J.F.		SWING CHECK VALVE	