

## M.B. VALVESERVICE S.R.L

Via Zanica ,19E - 24050 Grassobbio (BG)  
Tel. 0039 (0)35 335621 - Fax 0039 (0)35 3843864  
P.I. 03134620164  
[info@mbvalveservice.it](mailto:info@mbvalveservice.it)

## DOCUMENT LIST

Customer: **DESMET BALLESTRA S.p.A.**

Customer P.O. n°: **122241**

Your job: **2F11A**

Our Job: **12/00942/C**

Doc. N°

**DL12-00942 Rev.0**

Issued by

**D.Brignoli**



**M.B. VALVESERVICE S.R.L**

## **INDEX**

- Test certificate and Material 3.1 Certificate
- Operating & Maintenance Instruction Manual
- Dimensional Drawings
- Manual
- CE PED Conformity
- Conformity Certificate (issued by MB valveservice)
- Dual Use
- ISO 9001 certificate
- Quality system certificate



**M.B.VALVESERVICE S.R.L**

Client: DESMET PALLE STRA  
Client P.O. 122241  
Item: POS1r COMM 2F11A  
Our job: 121009421C  
M.B. VALVE SERVICE Q.A. B/A

Seite/page 1 / 1



GSR Ventiltechnik GmbH & Co. KG • Postfach 2060 • D-32595 Vlotho  
M. B. Valveservice SRL  
Via Zanica 19E  
24050 Grassobbio  
Italien



Abnahmeprüfzeugnis DIN EN 10204 – 3.1 Nr. 358/ 2012

**Inspection certificate**

**Bestell-Nr.** ..... : 986 Ordine 12/00781/F  
order no. Pos.060

**Bestelldatum . . .** 05.11.2012  
date of order

GSR Auftrag-Nr. .... : GO1211720  
GSR order no. .... : GP1273876

vom ..... : 05.11.2012  
of

**Artikelbeschreibung** . . . : 2/2-Way Valve System, force pilot operated, piston design, NC-non energized closed, NPT threaded  $\frac{1}{2}$ " orifice: 13,5 mm, 0-20 bar, 1.4581/1.4571/PTFE 1T= Temperature version up to max. +180°C, with manual operation and NPT-connecting thread.

Referenz: A3523/0804/ T802-1T

Stück quantity	Typenbezeichnung identification no of type	DN nom. diam. [mm]	PN nom. press. [bar]	Betriebsdr. working press. [bar]	Spannung supply volt	Werkstoff material
2	G035.000331.080.0R1.026	13,5	20	0-20	115V AC	1.4581 / 1.4571 / PTFE

Prüfung nach DIN 3230 Teil 3 proof according to DIN 3230 part 3

A .	Sicht- und Funktionsprüfung / visual and functional test :	
AA	Prüfung der Bestelldaten / checking of order specifications .....	<input checked="" type="checkbox"/>
AB	Prüfung Form und Ausrüstung / checking of type and equipment .....	<input checked="" type="checkbox"/>
AC	Prüfung der Kennzeichnung / checking of marks .....	<input checked="" type="checkbox"/>
AG	Prüfung der Betätigung / test of operation .....	<input type="checkbox"/>
AH	Prüfung auf Werkstoffverwechslung / test for confusion of materials .....	<input checked="" type="checkbox"/>
AP	Sichtprüfung / visual test .....	<input checked="" type="checkbox"/>
AQ	Prüfung der Betätigungsfunction unter Druck / test of operation under pressure .....	<input checked="" type="checkbox"/>
AR	Richtigkeit der Werkstoffnachweise / rightness of the material-certifications .....	<input checked="" type="checkbox"/>
B .	Festigkeits- und Dichtheitsprüfung / test of stability and leakage :	
BA	Festigkeit des Gehäuses mit Wasser 1,5xPN / body stability test with water .....	<input type="checkbox"/>
BF	Dichtheit Gehäuse, Spindeldurchf. m. Luft / leak test body, spindlebushing with air .....	<input checked="" type="checkbox"/>
BN	Dichtheit des Abschlusses mit Wasser Leckrate 1 / sealing leakage test with water .....	<input type="checkbox"/>
BO	Dichtheit des Abschlusses mit Luft Leckrate 2 sealing leakage test with air .....	<input checked="" type="checkbox"/>
BQ	Dichtheit des Gehäuses mit Wasser 1.5xPN / body leakage test with water .....	<input type="checkbox"/>
	Festigkeit des Gehäuses mit Luft 1,5xPN / body stability test with air 1,5xPN .....	<input type="checkbox"/>

Die mit  gekennzeichneten Prüfungen wurden an jeder Armatur durchgeführt. Es wurden keine Mängel festgestellt. The inspections with  were carried out on each valve. No faults were observed.

Bemerkungen:  
Remarks:

Vlotho, den 06.12.2012

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**Ort - Datum - Stempel**

**GSR** Ventiltechnik  
GmbH & Co. KG  
Im Meissenfeld 1

ESR Measurement, GmbH, R. Co., KG

## Ranforbindungen

Im Meisentfeld 1 • D-32602 Vlotho  
Tel. +49 5226 77940 Fax. +490

Sparkasse Lemgo  
BLZ 482 501 10 • Konto 800 23 88  
SICHERHEITSMARKE: 10000000000000000000

Die Gesellschaft ist eine Kommanditgesellschaft mit Sitz in Vlotho, im Meisentel 6  
RG Amtsgericht Bad Oeynhausen, HRB 2181

**ELITE INVESTMENT CASTING CO., LTD.**

Approved Material Manufacturer acc. PED Annex I, Sec. 4.3  
No.25, Hou Hu Tzu, Hou Hu Village, Hsin Feng, Hsinchu Taiwan, R.O.C.

<b>Abnahmeprüfzeugnis (EN 10204-3.1)</b>	<b>Zeugnis-Nr. : EL A0043</b>	Seite 1 of 2
<b>Inspection Certificate (EN 10204-3.1)</b>	<b>Certificate-No.: EL A0043</b>	Page 1 of 2

Mit Zustimmung d. TÜV Rheinland Anlagentechnik      With consense of TÜV Rheinland Anlagentechnik  
Bericht-Nr. 01 202 ROC/Q-02-0009      Report No.: 01 202 ROC/Q-02-0009

Besteller <i>Customer</i>	GSR Ventiltechnik GmbH & Co. KG		
Bestell-Nr. <i>Order-No.</i>	GBE120440	03.14.2011 <i>(Date)</i>	B0001 004234(G 3/B)
Prüfgegenstand <i>Article</i>	BODY		<i>(Drawing-No.)</i>
Prüfgrundlage <i>Specification</i>	PED Annex I, Section 4.3		
Werkstoff <i>Material</i>	1.4581 EN 10213 2007(D)		
Erschmelzung : Wärmebehandlung <i>Melting process-Heat Treatment</i>	(E): Elektro-Ofen, <i>electric furnace</i> 1100°C / 2h, AT QW / Lösungsgeglüht und in Wasser abgeschreckt 1100°C / 2h, AT QW / <i>solution annealing and quenched by water</i>		
Kennzeichnung <i>Marking</i>	• Werkstoff <i>Grade of Material</i>	• Herstellerzeichen <i>Trade Mark</i>	• CE-Zeichen / NB CE-Mark / NB
	• Nennweite <i>Nominal Size</i>		
	• Nenndruck <i>Nominal Pressure</i>		
	• Schmelze-Nr. <i>Heat Number</i>		

Umfang der Lieferung (extend of material delivery)

Pos -Nr. <i>Item No.</i>	Stueckzahl <i>Quantity</i>	Gewicht <i>Weight</i>	Gegenstand <i>Article</i>	DN	PN	Schmelze Nr. Heat <i>No</i>	Probe-Nr. Specimen <i>No</i>
01	828	0,29kg	BODY	-----	-----	A1407,A1408,A1409	A1407,A1408,A1409
						A1410,A1411	A1410,A1411

Ergebnis <i>Result</i>	Die gestellten Anforderungen sind laut Anlage 1 erfüllt. <i>The requirements are fulfilled, as listed in Annex 1.</i>
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Ort  
*Place*      Datum  
*Date*      Werksachverständiger  
*Work Inspector*

**M.B. VALVESERVICE s.r.l.**  
Via Zanica 19/e - 24030 Grassobbio (BG)  
Cod. Fiscale Partita IVA 03134620164  
TEL. 035/335621 - FAX 035/3843864

**ELITE INVESTMENT CASTING CO., LTD.**

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No. 25, Hou Hu Tzu, Hou Hu Village, Hsin Feng, Hsinchu Taiwan, R.O.C

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Mit Zustimmung d. TÜV Rheinland Anlagentechnik      With consense of TÜV Rheinland Anlagentechnik  
Bericht-Nr.: 01 202 ROC/Q-02-0009      Report No.: 01 202 ROC/Q-02-0009

Anhang 1: Ergebnis der Prüfungen      (Annex 1 : Test Results)

**A) Chemische Analyse / chemical analysis**

Schmelze Nr Heat No	C %	Si %	Mn %	P %	S %	Ni %	Cr %	Mo %	Cu %	Nb %
EN 10213 A1407	0.07	1.50	1.50	0.040	0.030	9.00	18.00	2.00	0.50	0.289
	0.040	0.998	1.026	0.030	0.007	9.466	18.399	2.217	0.615	0.289
X A1408	0.040	1.023	1.058	0.030	0.006	9.436	18.544	2.150	0.673	0.285
X A1409	0.036	1.017	0.992	0.030	0.006	9.482	18.289	2.172	0.574	0.291
X A1410	0.036	1.001	0.972	0.030	0.006	9.512	18.327	2.173	0.573	0.292
X A1411	0.039	1.028	1.043	0.031	0.007	9.474	18.412	2.230	0.612	0.294

**B) Mechanische Pruefung: Zugprüfung/tensile test Härtetest/hardness Kerbschlagarbeit/charpy**

Probe Nr Specimen	Prüftemp Test Temp	Rp 0.2 Proof stress	Rp 1.0 Proof stress	Zugfestigkeit Tensile Strength	Bruchdehnung Elongation	Härte Hardness	Kerbschlagarbeit ISO V Probe Energy Charpy Impact			
Nr. / No	°C	N/mm²	N/mm²	N/mm²	%	HB	Joule	Ø		
EN 10213 2007(D)	> 185	> 210	440-640	> 25	-----	-----	-----	> 40		
X A1407	RT	242.5	284.0	538.8	50.1	-----	112	114	97	108
X A1408	RT	227.1	267.9	524.2	47.9	-----	100	120	106	109
X A1409	RT	239.7	281.3	535.5	49.8	-----	109	103	117	110
X A1410	RT	236.3	277.5	532.6	49.4	-----	106	114	112	111
X A1411	RT	223.0	264.5	520.6	47.3	-----	103	97	126	109

**C) Abmaßprüfung und ZfP / Dimensional check and NDT**

- Prüfung / testing	Details / details	Ergebnis/ result
Besichtigung, Maßprüfung Visual inspection & dimensional check		OK
Oberflächenrißprüfung, Surface crack inspection		N/A
Durchstrahlungsprüfung, Radiographic examination		N/A
Prüfung auf Beständigkeit gegen I.K Intergranular corrosion testing (ASTM A 262-91)	Waived by customer agreement	N/A

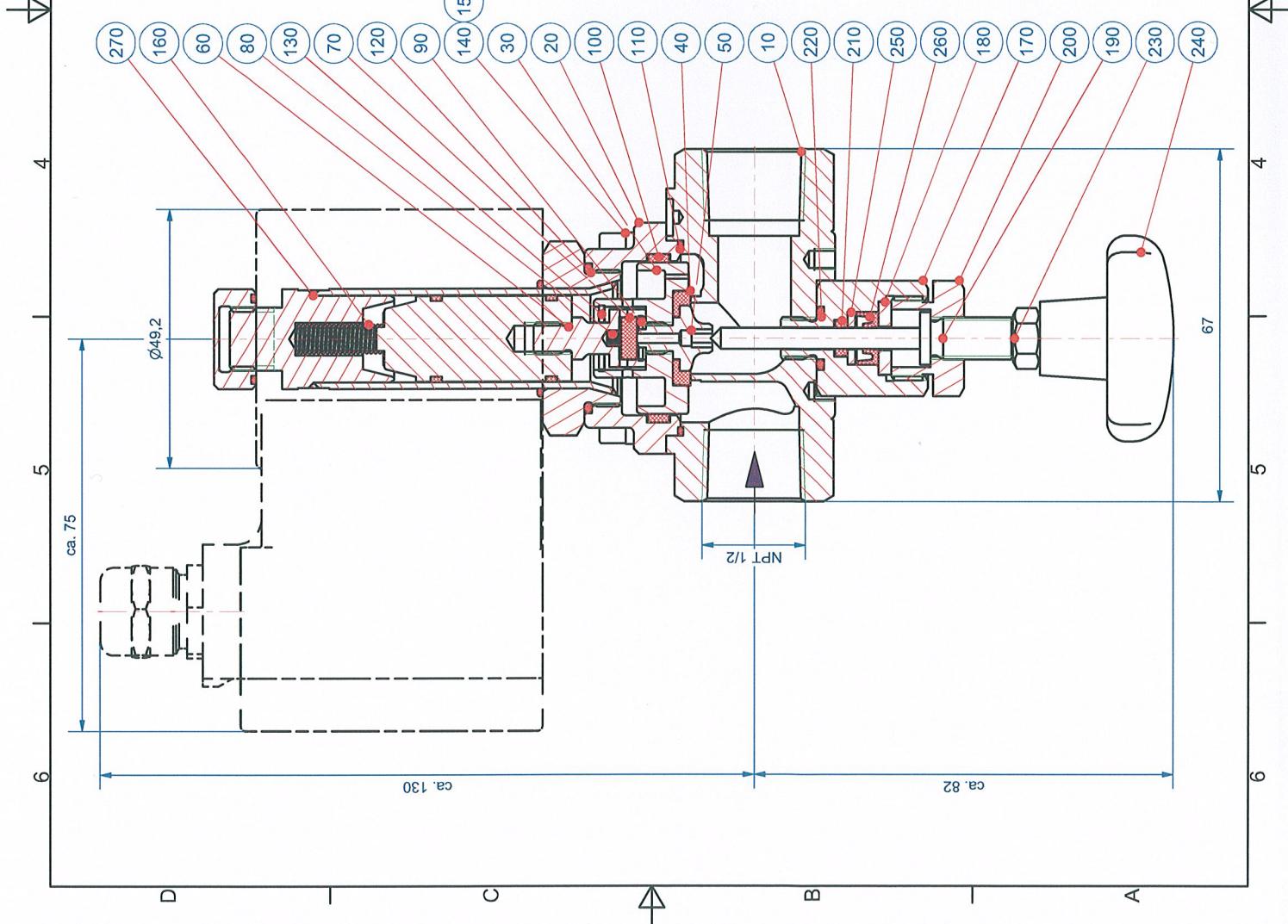
**D) Bemerkungen / Remarks :**

Lieferzustand / Delivery Condition : gebeizt / pickled

Ort / Place      Datum / Date      Werksachverständiger / Work inspector

**M.B. VALVESERVICE s.r.l.**  
Via Zanica, 19/c - 24050 Grassobbio (BG)  
Cod. Fisc. e Partita IVA 03134620164  
TEL. 035/335621 - FAX 035/3843864

Our Job: 12/00942/C  
 Your Order: 122241  
 Your Job: 2F11A  
 P/n .3523/0804/T802TH-HA-NG  
 Tags: KY 63.3A; KY 63.3B



G S R		Ventiltechnik		A	
copyright protection as of DIN ISO 16016		2/2 force pilot operated		B	
solenoid valve		item no. 035.000331		C	
Drawing no.:		88-002334		D	
page 1		unit no.: 87-013866		E	
Rev. revision no. date name		2		F	
200 190 230 240		3		4	
D 32602 Vlotho		5		6	
Im Meisenfeld 1		67		6	
Tel.: 05228/779-0		1		A3	
drawer 12-10-2012 AApke		date 12-10-2012 name AApke		B	
editor 12-10-2012 AApke		checked 12-10-2012 AApke		C	

## Standardtype

Ventil in Ruhestellung geschlossen-NC. Der erregte Magnet öffnet eine Vorsteuerbohrung und hebt direkt oder unterstützt von der Druckdifferenz den Kolben vom Hauptsitz. Das Ventil schließt durch Federkraft.

## Standard type

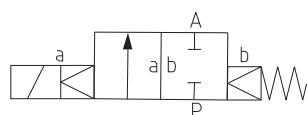
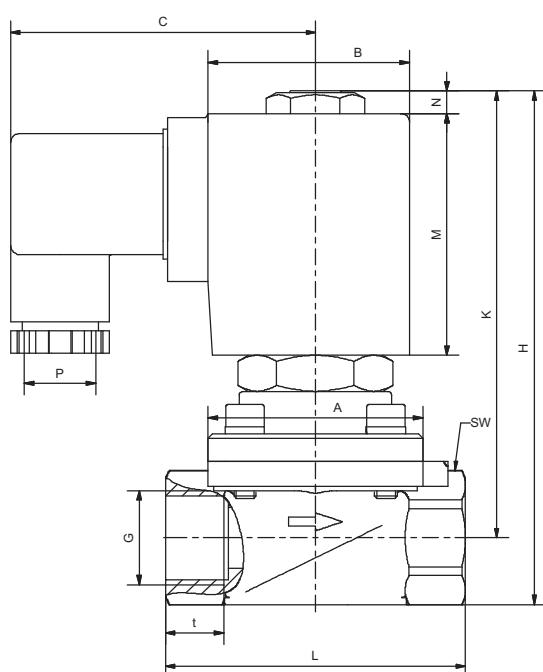
Valve normally closed - NC. When energised, the solenoid will open/free the pilot chamber and the valve will open directly or servo assisted by the pressure differential of the flow medium. The valve closes by spring power.



Steuerungsart: Type of control:	zwangsgesteuert force pilot operated	Metall. Innenteile: Metallic internals:	Messing und Edelstahl 1.4104 Brass and stainless steel (AISI 430F)
Konstruktion: Construction:	Kolbensitzventil Piston design	Dichtung: Sealing:	NBR NBR
Anschluss: Connection:	G1/4-G1, DIN ISO 228 G1/4-G1, DIN ISO 228	Einbaulage: Installation:	nur mit stehendem Magneten actuator only in upright position
Druck: Pressure:	0-40 bar 0-40 bar	Anschlussspannung: Supply voltage:	AC: 24,42,110,230V 50Hz DC: 24,110,205V=
Durchflussmedium: Medium:	neutrale, gasförmige u. flüssige Medien neutral, gaseous and liquid medium	Spannungstoleranz: Voltage tolerance:	+5% / -10% +5% / -10%
Viskosität: Viscosity:	22mm²/s 22mm²/s	Leistungsaufnahme: Power-consumption:	1702/3702 = 25 Watt 1322/3322 = 30 Watt
Mediumtemperatur: Medium temperature:	-10 bis +80°C -10 up to +80°C	Schutzart: Protection class:	IP65 nach DIN 40050 IP65 according to DIN 40050
Umgebungstemperatur: Ambient temperature:	+35°C +35°C	Einschaltdauer: Duty factor:	100% ED-VDE 0580 100% ED-VDE 0580
Ventilgehäuse: Body material:	..10/.. = Messing / Brass ..08/.. = Edelstahl 1.4581 / St. steel (AISI 316Ti)	Kabelanschluss: Cable connection:	Gerätestecker DIN 43650 / Klemmkasten DIN 43650 - Plug / terminal box

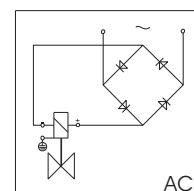
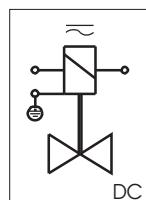
G	Sitz Orifice Ømm	Kv-Wert Flow-rate m³/h	Standardtype Standard type P40	max. Druck bei Magnetype max. pressure regarding solenoid type	
				.702	.322
1/4	13	1,8	A3521/1001/....	0-40	-
3/8	13	4,0	A3522/1001/....	0-40	-
1/2	13	4,5	A3523/1001/....	0-40	-
3/4	25	11,5	A3524/1001/....	-	0-40
1	25	13,0	A3525/1001/....	-	0-40

Maßzeichnung Standardausführung  
Dimensional drawing of standard type



Schaltfunktion/Function:  
in Ruhestellung gesperrt - NC.  
normally closed - NC.

Anschlussplan / Connection diagram



Für Gleichspannung. Mit vorgeschaltetem Gleichrichter  
For DC. For AC.

Mit Wechselrichter  
With rectifier

For Wechselspannung.  
With rectifier for AC connection.

Erdung oder Schutzschaltung nach Vorschrift des zuständigen EVU.  
Grounding or earthing of the protective circuit in accordance  
with regulations of the responsible electric supply company.

Absicherung entsprechend der Stromaufnahme vorsehen.  
Appropriate protection according to the power-consumption.

Magnet Solenoid	.702	.322
Type	3521-3523	3524-3525
G	1/4 - 1/2	3/4 - 1
A	48	70
B	35x35	Ø63
C	66	76
H	115	162
K	100	136,5
L	67	96
M	50	59
N	10	16
SW	27	41
T	12	16
P	M20x1,5	M20x1,5
kg	0,55	1,4

Ventiloptionen / Valve options

Stromlos geöffnet = NO  
Non energised open = NO

Handbetätigung = HA  
Manual override = HA

Dichtung = FKM, EPDM, PTFE  
Sealing = FKM, EPDM, PTFE

Öl und fettfrei = OF  
Free of oil and grease = OF (for oxygen applications)

Stellungsanzeiger (Endschalter ab G3/4 mit Magnet /.322) = EH  
Position indicator (reed contact from G3/4 with solenoid /.322) = EH

NPT-Anschlussgewinde = NG  
NPT-connection = NG

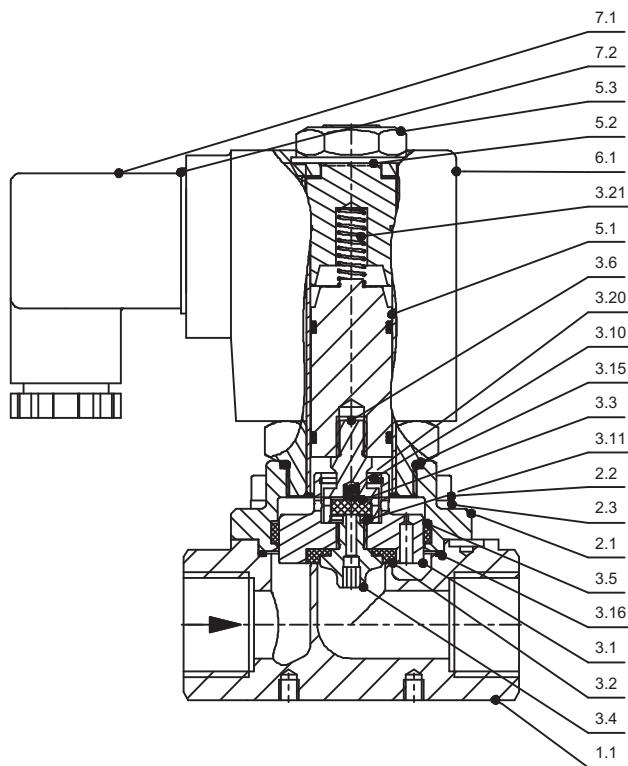
Ex-Schutz = Ex II 2G Ex e mb II T4  
Explosion proof = Ex II 2G Ex e mb II T4

Weitere Ex-Schutzzarten auf Anfrage  
Further Ex-plosion proof protection classes on demand

Stückliste - Parts list

Baureihe / Type A3521-3523

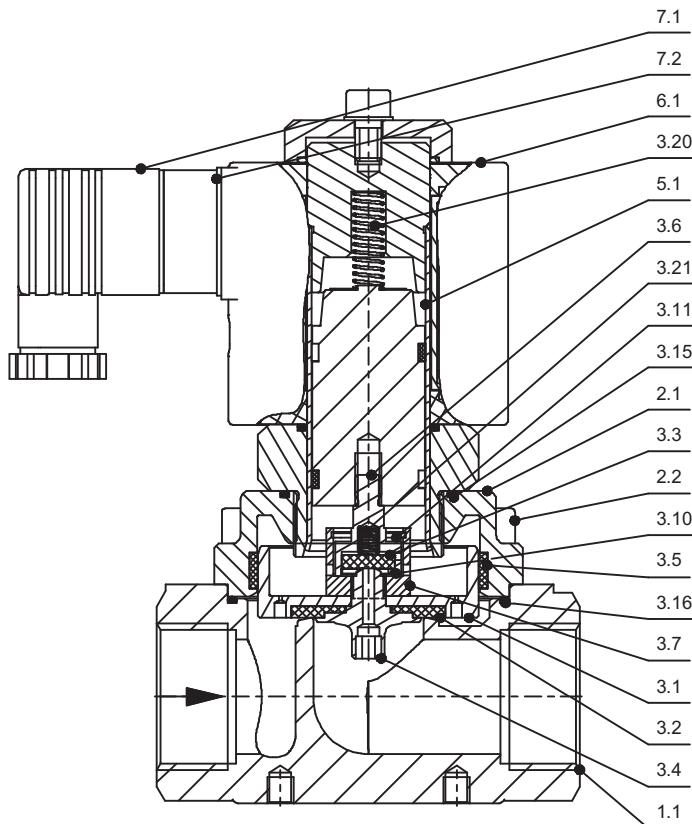
- K1.1 Armatur / Valve body
- K2.1 Deckel / Bonnet
- K2.2 Schraube / Screw
- \*K3.1 Vorsteuersitz / Pilot seat
- \*K3.2 Ventilkolben komplett / Complete valve piston
- \*K3.3 Führungsstern / Guiding insert
- \*K3.4 Vorsteuerspindel / Pilot spindle
- \*K3.5 Kolbenführungsband / Piston ring
- \*K3.6 Vorsteuerspindel / Pilot spindle
- \*K3.7 Mutter / Nut
- \*K3.10 Sicherungsring / Clip
- \*K3.11 Sicherungsring / Clip
- \*K3.15 O-Ring / O-ring
- \*K3.16 O-Ring / O-ring
- \*K3.20 Feder / Spring
- \*K3.21 Feder / Spring
- K5.1 Tubus / Solenoid tube
- K5.2 Scheibe / Washer
- K5.3 Mutter / Nut
- K6.1 Magnet / Solenoid
- K7.1 Stecker / Plug
- K7.2 Dichtung / Seal



\* = Bestandteil des Ersatzteilepäckchens  
(je nach Ausführung freibleibend)

\* = Part of the service-set (these specifications  
are without obligation).

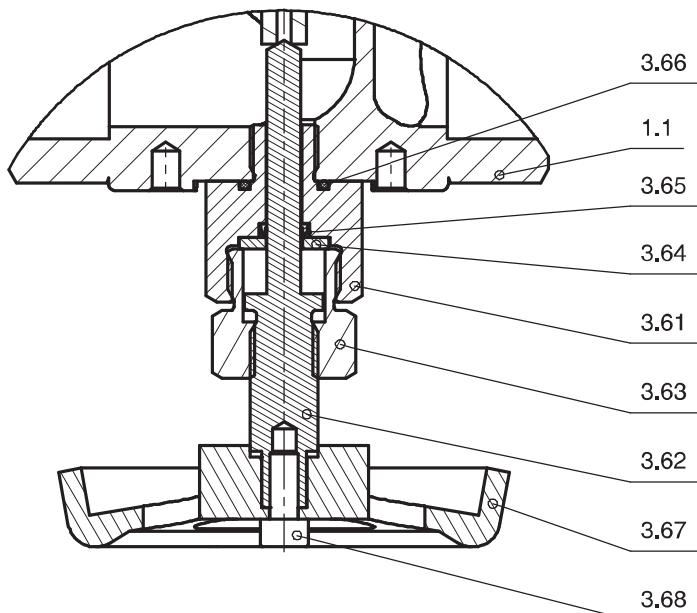
Baureihe / Type A3524-3525



Ventiloptionen / Valve options

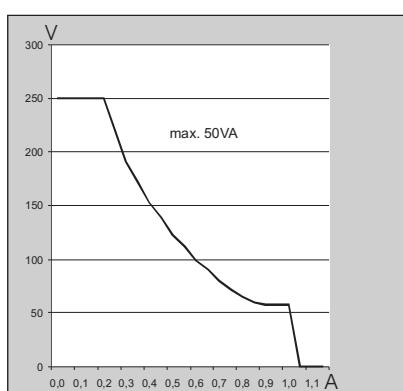
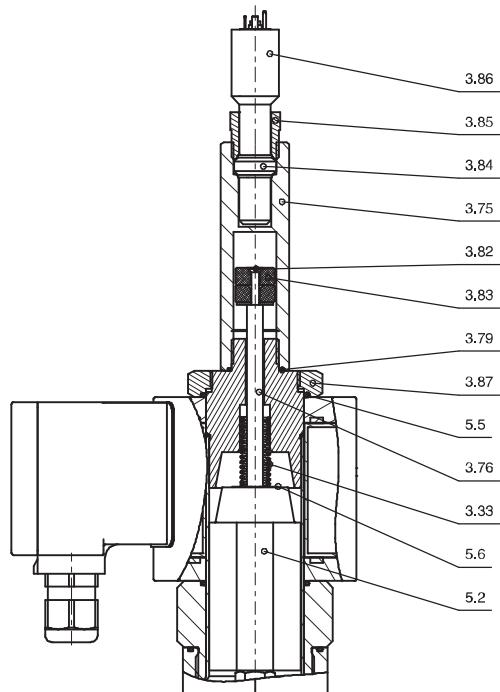
Handbetätigung - HA  
Manual operation - HA

- K3.61 Zwischenverschraubung / Screw joint
- K3.62 Spindel / Spindle
- K3.63 Verschraubung / Screw joint
- K3.64 Scheibe / Disk
- K3.65 Nutring / U-ring
- K3.66 O-Ring / O-ring
- K3.67 Handrad / Handwheel
- K3.68 Zyl.-schraube / Cylinder screw
- K3.69 Scheibe / Disk



Stellungsanzeiger - EH (ab G1/4 mit Magnet / .322)  
Position indicator - EH (from G1/4 with solenoid / .322)

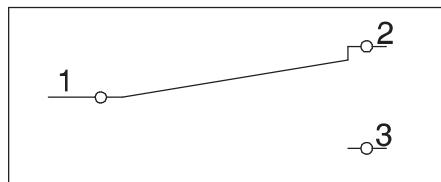
- K3.33 Feder / Spring
- K3.75 Zwischenverschraubung / Screw joint
- K3.76 Spindel / Spindle
- K3.77 Schutzrohr / Protection tube
- K3.79 O-Ring / O-ring
- K3.82 Senkschraube / Countersunk bolt
- K3.83 Permanentmagnet / Permanent magnet
- K3.84 Klemmring / Clamp ring
- K3.85 Verschraubung / Screw joint
- K3.86 Endschalter / Position indicator
- K3.87 6-kt. Mutter / Hexagon nut
- K5.2 Anker / Plunger
- K5.5 O-Ring / O-ring
- K5.6 Scheibe / Disk



Schaltleistungsdiagramm  
Braking capacity diagram

Anschlussplan /  
Connection diagram

Endschalter / Position indicator



Client: DESMET BALLESTRA
Client P.O. 122241
Item: POS 2 - COMM 2F1A
Our job: 121009421C
M.B. VALVE SERVICE Q.A. B31

Seite/page 1 / 1



GSR Ventiltechnik GmbH & Co. KG • Postfach 2060 • D-32595 Vlotho

M. B. Valveservice SRL  
Via Zanica 19E  
24050 Grassobbio  
Italien



### Abnahmeprüfzeugnis DIN EN 10204 – 3.1 Nr. 350 / 2012

L Inspection certificate

**Bestell-Nr.** ..... : 986 Ordine 12/00781/F  
order no Pos.030

**Bestelldatum** ..... : 05.11.2012  
date of order

**GSR Auftrag-Nr.** ..... : GO1211720  
GSR order no GP1272842

**vom** ..... : 05.11.2012  
of

**Artikelbeschreibung** ..... : 2/2-Way Valve System, force pilot operated, diaphragm design, NC-non energized close, NPT threaded 1/2, orifice: 13,5mm, 0-16 bar, Ms/1.4104/NBR  
partsdescription

**Referenz:** D4323/1001/702HA

Stück quantity	Typenbezeichnung identification no of type	DN nom. diam. [mm]	PN nom. press. [bar]	Betriebsdr. working press. [bar]	Spannung supply volt.	Werkstoff material
1	G043.002235.080.002.025	13,5	16	0 - 16	24 V DC	Ms/ 1.4104 / NBR

Prüfung nach DIN 3230 Teil 3 proof according to DIN 3230 part 3

A .	Sicht- und Funktionsprüfung / visual and functional test :	
AA	Prüfung der Bestelldaten / checking of order specifications .....	<input checked="" type="checkbox"/>
AB	Prüfung Form und Ausrüstung / checking of type and equipment .....	<input checked="" type="checkbox"/>
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AG	Prüfung der Betätigung / test of operation .....	<input checked="" type="checkbox"/>
AH	Prüfung auf Werkstoffverwechslung / test for confusion of materials .....	<input type="checkbox"/>
AP	Sichtprüfung / visual test .....	<input checked="" type="checkbox"/>
AQ	Prüfung der Betätigungsfunction unter Druck / test of operation under pressure .....	<input checked="" type="checkbox"/>
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B .	Festigkeits- und Dichtheitsprüfung / test of stability and leakage :	
BA	Festigkeit des Gehäuses mit Wasser 1,5xPN / body stability test with water .....	<input type="checkbox"/>
BF	Dichtheit Gehäuse, Spindeldurchf. m. Luft / leak test body, spindlebushing with air .....	<input checked="" type="checkbox"/>
BN	Dichtheit des Abschlusses mit Wasser Leckrate 1 / sealing leakage test with water .....	<input type="checkbox"/>
BO	Dichtheit des Abschlusses mit Luft Leckrate 1 / sealing leakage test with air .....	<input checked="" type="checkbox"/>
BQ	Dichtheit des Gehäuses mit Wasser 1,5xPN / body leakage test with water .....	<input type="checkbox"/>
	Festigkeit des Gehäuses mit Luft 1,5xPN / body stability test with air 1,5xPN .....	<input type="checkbox"/>

Die mit  gekennzeichneten Prüfungen wurden an jeder Armatur durchgeführt. Es wurden keine Mängel festgestellt. The inspections with  were carried out on each valve. No faults were observed.

Bemerkungen:  
Remarks:

Vlotho, den 20.11.2012

Ort - Datum - Stempel

Reinhold Hanke, Abnahmeverantwortlicher (Inspector)

GSR Ventiltechnik  
GmbH & Co. KG  
Im Meisenfeld 1  
32602 Vlotho (Eckter)

(05228) 779-0 · Fax 779-90

GSR Ventiltechnik GmbH & Co. KG  
Im Meisenfeld 1 • D-32602 Vlotho  
Tel: +49 5228 779-0 Fax: -190  
www.ventiltechnik.de

Bankverbindungen

Sparkasse Lemgo  
BLZ 482 501 10 • Konto 800 23 88  
BIC WELADED1LEM • IBAN DE05 4825 0110 0008 0023 88

Die Gesellschaft ist eine Kommanditgesellschaft mit Sitz in Vlotho, Im Meisenfeld 1  
RG Amtsgericht Bad Oeynhausen, HRA 2161

info@ventiltechnik.de  
Steuer Nr.: 324/5710/1069  
UST-IdNr.: DE 811 941 282

Commerzbank AG, Filiale Herford  
BLZ 494 400 43 • Konto 290 900 000  
BIC COBADEFF494 • IBAN DE19 4944 0043 0290 9000 00

Pers. haftende Gesellschafterin ist die GSR Verwaltungs GmbH mit Sitz in Vlotho  
RG Amtsgericht Bad Oeynhausen, HRB 2598  
Geschäftsführer: Dipl.-Geophysiker Wolfgang Heil



Client: DESMET BALLETTRA
Client P.O. 122241
Item: POS 3 - COM 2F11A
Our job: 121009421C
M.B. VALVE SERVICE Q.A. Doyt

Seite/page 1/1



GSR Ventiltechnik GmbH & Co. KG • Postfach 2060 • D-32595 Vlotho

M. B. Valveservice SRL  
Via Zanica 19E  
24050 Grassobbio  
Italien



### Abnahmeprüfzeugnis DIN EN 10204 – 3.1 Nr. 349 / 2012

L Inspection certificate

**Bestell-Nr.** ..... : 986 Ordine 12/00781/F  
order no

**Bestelldatum** ..... : 05.11.2012  
date of order

**GSR Auftrag-Nr.** ..... : GO1211720  
GSR order no GP1272384

**vom** ..... : 05.11.2012  
of

**Artikelbeschreibung** ..... : 2/2-Way Valve System, force pilot operated, diaphragm design, NC-non energized close, NPT threaded 1/2, orifice: 13,5mm, 0-16 bar, 2.0402/1.4104/NBR  
NR=valve non energized open, NPT threaded and manual operation

**Referenz:** D4323/1001/702NR

Stück quantity	Typenbezeichnung identification no of type	DN nom. diam. [mm]	PN nom. press. [bar]	Betriebsdr. working press. [bar]	Spannung supply volt.	Werkstoff material
2	G043.004039.080.002.025	13,5	16	0 - 16	24 V DC	2.0402/ 1.4104 / NBR

Prüfung nach DIN 3230 Teil 3 proof according to DIN 3230 part 3

A .	Sicht- und Funktionsprüfung / visual and functional test :	
AA	Prüfung der Bestelldaten / checking of order specifications .....	<input checked="" type="checkbox"/>
AB	Prüfung Form und Ausrüstung / checking of type and equipment .....	<input checked="" type="checkbox"/>
AC	Prüfung der Kennzeichnung / checking of marks .....	<input type="checkbox"/>
AG	Prüfung der Betätigung / test of operation .....	<input checked="" type="checkbox"/>
AH	Prüfung auf Werkstoffverwechslung / test for confusion of materials .....	<input type="checkbox"/>
AP	Sichtprüfung / visual test .....	<input checked="" type="checkbox"/>
AQ	Prüfung der Betätigungsfunction unter Druck / test of operation under pressure .....	<input checked="" type="checkbox"/>
AR	Richtigkeit der Werkstoffnachweise / rightness of the material-certifications .....	<input type="checkbox"/>
B .	Festigkeits- und Dichtheitsprüfung / test of stability and leakage :	
BA	Festigkeit des Gehäuses mit Wasser 1,5xPN / body stability test with water .....	<input type="checkbox"/>
BF	Dichtheit Gehäuse, Spindeldurchf. m. Luft / leak test body, spindlebushing with air .....	<input checked="" type="checkbox"/>
BN	Dichtheit des Abschlusses mit Wasser Leckrate 1 / sealing leakage test with water .....	<input type="checkbox"/>
BO	Dichtheit des Abschlusses mit Luft Leckrate 1 / sealing leakage test with air .....	<input checked="" type="checkbox"/>
BQ	Dichtheit des Gehäuses mit Wasser 1,5xPN / body leakage test with water .....	<input type="checkbox"/>
	Festigkeit des Gehäuses mit Luft 1,5xPN / body stability test with air 1,5xPN .....	<input type="checkbox"/>

Die mit  gekennzeichneten Prüfungen wurden an jeder Armatur durchgeführt. Es wurden keine Mängel festgestellt. The inspections with  were carried out on each valve. No faults were observed.

Bemerkungen:  
Remarks:

Vlotho, den 20.11.2012

Ort - Datum - Stempel

Reinhold Hanke, Abnahmeverantwortlicher (Inspector)

**GSR** Ventiltechnik  
GmbH & Co. KG  
Im Meisenfeld 1  
32602 Vlotho (Exter)  
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info@ventiltechnik.de  
Steuer-Nr.: 324/5710/1069  
USt-IdNr.: DE 811 941 282

Bankverbindungen

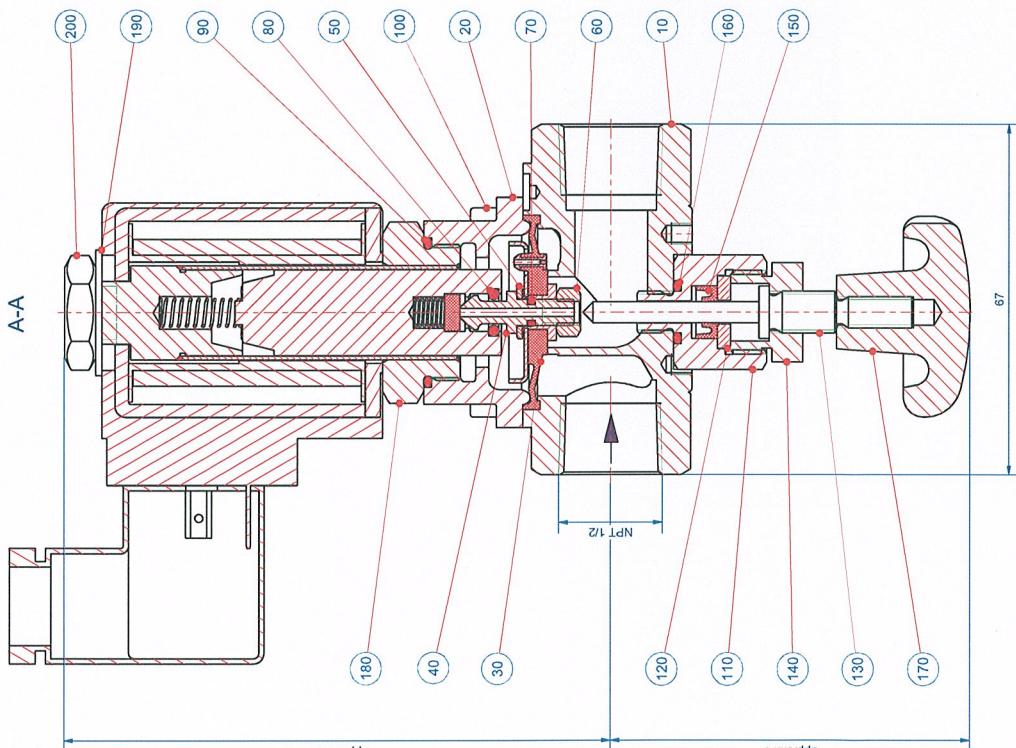
Sparkasse Lemgo  
BLZ 482 501 10 • Konto 800 23 88  
BIC WELADED1LEM • IBAN DE05 4825 0110 0008 0023 88

Commerzbank AG, Filiale Herford  
BLZ 494 400 43 • Konto 290 900 000  
BIC COBADEFF494 • IBAN DE19 4944 0043 0290 9000 00

Die Gesellschaft ist eine Kommanditgesellschaft mit Sitz in Vlotho, Im Meisenfeld 1  
RG Amtsgericht Bad Oeynhausen, HRA 2161

Pers. haftende Gesellschafterin ist die GSR Verwaltungs GmbH mit Sitz in Vlotho  
RG Amtsgericht Bad Oeynhausen, HRB 2598  
Geschäftsführer: Dipl.-Geophysiker Wolfgang Heil

Our Job: 12/00942/C  
 Your Order: 1222241  
 Your Job: 2F11A  
 P/n .43231001/.702-HA-NG  
 Tags: KY 65.2A; KY 65.2B



Parts list		
Pos.	No.	Article name
10	1	B0001.004972 Body
20	1	B0002.002333 Bonnet
* 30	1	B0024.000948 Diaphragm
* 40	1	B0010.000184 Pilot seat
* 50	1	B0016.000369 Disc
* 60	1	B0014.000959 Nut
* 70	1	B0025.000380 O-Ring
* 80	1	B0025.000373 O-Ring
* 90	1	B0025.000440 O-Ring
100	4	B0018.000262 Screw
110	1	B0009.002338 Screw joint
120	1	B0011.001936 Disc
130	1	B0008.002472 Spindle
140	1	B0009.00292 Lip seal
* 150	1	B0026.000003 O-Ring
* 160	1	B0025.000385 Star knob
* 170	1	B0017.000003 Solenoid tube
* 180	1	B0020.001235 Solenoid
190	1	B0016.000404 Disc
200	1	B0014.000995 Nut
220	1	B0040.00039 Plug
210	1	B0051.000522 Solenoid

GSR

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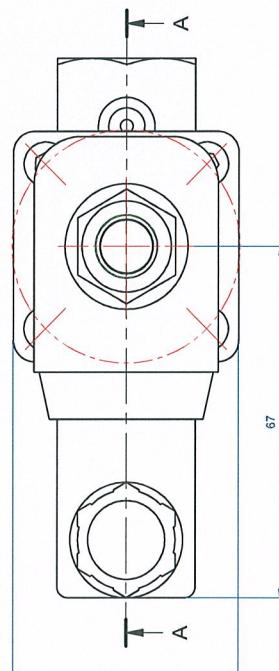
part no. 043.03978

drawing no.: 88-002288

doc. no.: 88-002287

page 1

A2



Client: DESMET BALLESTRA
Client P.O. 122241
Item: POS 7 - COMM. 2F11A
Our job: 12100942/C
M.B. VALVE SERVICE Q.A. B1

Seite/page 1/1



GSR Ventiltechnik GmbH &amp; Co. KG • Postfach 2060 • D-32595 Vlotho

M. B. Valveservice SRL  
 Via Zanica 19E  
 24050 Grassobbio  
 Italien

ISO 9001  
 BUREAU VERITAS  
 Certification



### Abnahmeprüfzeugnis DIN EN 10204 – 3.1 Nr. 348 / 2012

#### L Inspection certificate

**Bestell-Nr.** ..... : 986 Ordine 12/00781/F  
 order no Pos.010

**Bestelldatum** ..... : 05.11.2012  
 date of order

**GSR Auftrag-Nr.** ..... : GO1211720  
 GSR order no GP1272383

**vom** ..... : 05.11.2012  
 of

**Artikelbeschreibung** .... : 2/2 way, force pilot operated diaphragm design, 0-16 bar, threaded NPT  
 partsdescription 1/2, NC-normally closed, 1.4581/1.4104/NBR, NR = NPT connection ports  
 with manual override

**Referenz:** D4323/0801.702-NR

Stück quantity	Typenbezeichnung identification no of type	DN nom. diam. [mm]	PN nom. press. [bar]	Betriebsdr. working press. [bar]	Spannung supply volt.	Werkstoff material
2	G043.003978.080.002.025	13,5	16	0 - 16	115V 50 Hz	1.4581 / 1.4104 / NBR

#### Prüfung nach DIN 3230 Teil 3 proof according to DIN 3230 part 3

A .	Sicht- und Funktionsprüfung / visual and functional test :	
AA	Prüfung der Bestelldaten / checking of order specifications .....	<input checked="" type="checkbox"/>
AB	Prüfung Form und Ausrüstung / checking of type and equipment .....	<input checked="" type="checkbox"/>
AC	Prüfung der Kennzeichnung / checking of marks .....	<input checked="" type="checkbox"/>
AG	Prüfung der Betätigung / test of operation .....	<input checked="" type="checkbox"/>
AH	Prüfung auf Werkstoffverwechslung / test for confusion of materials .....	<input type="checkbox"/>
AP	Sichtprüfung / visual test .....	<input checked="" type="checkbox"/>
AQ	Prüfung der Betätigungsfunction unter Druck / test of operation under pressure .....	<input checked="" type="checkbox"/>
AR	Richtigkeit der Werkstoffnachweise / rightness of the material-certifications .....	<input checked="" type="checkbox"/>
B .	Festigkeits- und Dichtheitsprüfung / test of stability and leakage :	
BA	Festigkeit des Gehäuses mit Wasser 1,5xPN / body stability test with water .....	<input type="checkbox"/>
BF	Dichtheit Gehäuse, Spindeldurchf. m. Luft / leak test body, spindlebushing with air .....	<input checked="" type="checkbox"/>
BN	Dichtheit des Abschlusses mit Wasser Leckrate 1 / sealing leakage test with water .....	<input type="checkbox"/>
BO	Dichtheit des Abschlusses mit Luft Leckrate 1 / sealing leakage test with air .....	<input checked="" type="checkbox"/>
BQ	Dichtheit des Gehäuses mit Wasser 1,5xPN / body leakage test with water .....	<input type="checkbox"/>
	Festigkeit des Gehäuses mit Luft 1,5xPN / body stability test with air 1,5xPN .....	<input type="checkbox"/>

Die mit  gekennzeichneten Prüfungen wurden an jeder Armatur durchgeführt. Es wurden keine Mängel festgestellt. The inspections with  were carried out on each valve. No faults were observed.

#### Bemerkungen:

Remarks:

Vlotho, den 20.11.2012

Ort - Datum - Stempel

Reinhold Hanke, Abnahmebeauftragter (Inspector)

GSR Ventiltechnik  
 GmbH & Co. KG  
 Im Meisenfeld 1  
 32602 Vlotho (Exter)  
 (05228) 779-0 Fax 779-00

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 www.ventiltechnik.de

#### Bankverbindungen

Sparkasse Lemgo  
 BLZ 482 501 10 • Konto 800 23 88  
 BIC WELADED1LEM • IBAN DE05 4825 0110 0008 0023 88

Die Gesellschaft ist eine Kommanditgesellschaft mit Sitz in Vlotho, Im Meisenfeld 1  
 RG Amtsgericht Bad Oeynhausen, HRA 2161

info@ventiltechnik.de  
 Steuer Nr.: 324/5710/1069  
 USt-IdNr.: DE 811 941 282

Commerzbank AG, Filiale Herford  
 BLZ 494 400 43 • Konto 290 900 000  
 BIC COBADEFF494 • IBAN DE19 4944 0043 0290 9000 00

Pers. haftende Gesellschafterin ist die GSR Verwaltungs GmbH mit Sitz in Vlotho  
 RG Amtsgericht Bad Oeynhausen, HRB 2598  
 Geschäftsführer: Dipl.-Geophysiker Wolfgang Heil

**ELITE INVESTMENT CASTING CO., LTD.**  
**Approved Material Manufacturer acc. PED Annex I, Sec. 4.3**  
**No.25, Hou Hu Tzu, Hou Hu Village, Hsin Feng, Hsinchu Taiwan, R.O.C.**

<b>Abnahmeprüfzeugnis (EN 10204-3.1)</b>	<b>Zeugnis-Nr. : EL A0043</b>	Seite 1 of 2
<b>Inspection Certificate (EN 10204-3.1)</b>	<b>Certificate-No.: EL A0043</b>	Page 1 of 2

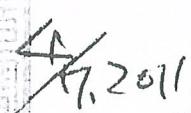
Mit Zustimmung d. TÜV Rheinland Anlagentechnik      *With consense of TÜV Rheinland Anlagentechnik*  
Bericht-Nr.:01 202 ROC/Q-02-0009      Report No.: 01 202 ROC/Q-02-0009

Besteller : <i>Customer</i>	GSR Ventiltechnik GmbH & Co. KG		
Bestell-Nr.: <i>Order-No</i>	GBE120440	03.14.2011 <i>(Date)</i>	B0001.004234(G 3/8) <i>(Drawing-No.)</i>
Pruefgegenstand <i>Article</i>	BODY		
Pruefgrundlage <i>Specification</i>	PED Annex I, Section 4.3		
Werkstoff <i>Material</i>	1.4581 EN 10213:2007(D)		
Erschmelzung : Wärmebehandlung : <i>Melting process-Heat Treatment</i>	(E): Elektro-Ofen, electric furnace 1100°C / 2h, AT QW / Lösungsgeglüht und in Wasser abgeschreckt 1100°C / 2h, AT QW / solution annealing and quenched by water		
Kennzeichnung <i>Marking</i>	<ul style="list-style-type: none"> <li>• Werkstoff Grade of Material</li> <li>• Nennweite Nominal Size</li> <li>• Nenndruck Nominal Pressure</li> <li>• Schmelze-Nr. Heat Number</li> </ul>	<ul style="list-style-type: none"> <li>• Herstellerzeichen Trade Mark</li> </ul>	<ul style="list-style-type: none"> <li>• CE-Zeichen / NB CE-Mark / NB</li> </ul>

**Umfang der Lieferung (extend of material delivery)**

Pos.-Nr. <i>Item No.</i>	Stueckzahl <i>Quantity</i>	Gewicht <i>Weight</i>	Gegenstand <i>Article</i>	DN	PN	Schmelze Nr. Heat <i>No.</i>	Probe-Nr. Specimen <i>No.</i>
01	828	0.29kg	BODY	-----	-----	A1407,A1408,A1409	A1407,A1408,A1409
						A1410,A1411	A1410,A1411

<b>Ergebnis <i>Result</i></b>	Die gestellten Anforderungen sind laut Anlage 1 erfüllt. <i>The requirements are fulfilled, as listed in Annex 1.</i>
-----------------------------------	--

Ort <i>Place</i>	Datum <i>Date</i>	Werksachverständiger <i>Work inspector</i>
  		

**ELITE INVESTMENT CASTING CO., LTD.**

Approved Material Manufacturer acc. PED Annex I, Sec. 4.3  
No.25, Hou Hu Tzu, Hou Hu Village, Hsin Feng, Hsinchu Taiwan, R.O.C.

<b>Abnahmeprüfzeugnis (EN 10204-3.1)</b>	<b>Zeugnis-Nr. : EL A0043</b>	Seite 2 of 2
<b>Inspection Certificate (EN 10204-3.1)</b>	<b>Certificate-No.: EL A0043</b>	Page 2 of 2

Mit Zustimmung d. TÜV Rheinland Anlagentechnik      With consense of TÜV Rheinland Anlagentechnik  
Bericht-Nr.:01 202 ROC/Q-02-0009      Report No.: 01 202 ROC/Q-02-0009

## Anhang 1: Ergebnis der Prüfungen (Annex 1 : Test Results)

#### A) Chemische Analyse / chemical analysis

Schmelze Nr. Heat No.	C %	Si %	Mn %	P %	S %	Ni %	Cr %	Mo %	Cu %	Nb %
EN 10213	0.07	1.50	1.50	0.040	0.030	9.00	18.00	2.00	0.50	8.970 ≤ 1.00
A1407	0.040	0.998	1.026	0.030	0.007	9.466	18.399	2.217	0.615	0.289
A1408	0.040	1.023	1.058	0.030	0.006	9.436	18.544	2.150	0.673	0.285
A1409	0.036	1.017	0.992	0.030	0.006	9.482	18.289	2.172	0.574	0.291
A1410	0.036	1.001	0.972	0.030	0.006	9.512	18.327	2.173	0.573	0.292
A1411	0.039	1.028	1.043	0.031	0.007	9.474	18.412	2.230	0.612	0.294

**B) Mechanische Pruefung: Zugpruefung/tensile test Härte/hardness Kerbschlagarbeit/charpy**

B) Mechanische Prüfung: Zugprüfung / Tensile test					Härte/Hardness		Kerbschlagarbeit Charpy			
Probe Nr. Specimen	Prueftemp Test Temp	Rp 0.2 Proof stress	Rp 1.0 Proof stress	Zugfestigkeit Tensile Strength	Bruchdehnung Elongation	Härte Hardness	Kerbschlagarbeit ISO V Probe Energy Charpy Impact			
Nr / No	°C	N/mm <sup>2</sup>	N/mm <sup>2</sup>	N/mm <sup>2</sup>	%	HB	Joule		Ø	
EN 10213:2007(D)		> 185	> 210	440-640	> 25	-----			> 40	
A1407	RT	242.5	284.0	538.8	50.1	-----	112	114	97	108
A1408	RT	227.1	267.9	524.2	47.9	-----	100	120	106	109
A1409	RT	239.7	281.3	535.5	49.8	-----	109	103	117	110
A1410	RT	236.3	277.5	532.6	49.4	-----	106	114	112	111
A1411	RT	223.0	264.5	520.6	47.3	-----	103	97	126	109

### C) Abmaßprüfung und ZfP / Dimensional check and NDT

C) Abnahmeprüfung und ZIF / Dimensional check und NDT		
- Prüfung / testing	Details / details	Ergebnis/ result
Besichtigung, Maßprüfung <i>Visual inspection &amp; dimensional check</i>		OK
Oberflächenrißprüfung, <i>Surface crack inspection</i>		N/A
Durchstrahlungsprüfung, <i>Radiographic examination</i>		N/A
Prüfung auf Beständigkeit gegen I.K. <i>Intergranular corrosion testing (ASTM A 262-91)</i>	<i>Waived by customer agreement</i>	N/A

#### D) Bemerkungen / Remarks :

D) Bemerkungen / Remarks : Lieferzustand / Delivery Condition : gebeizt / pickled

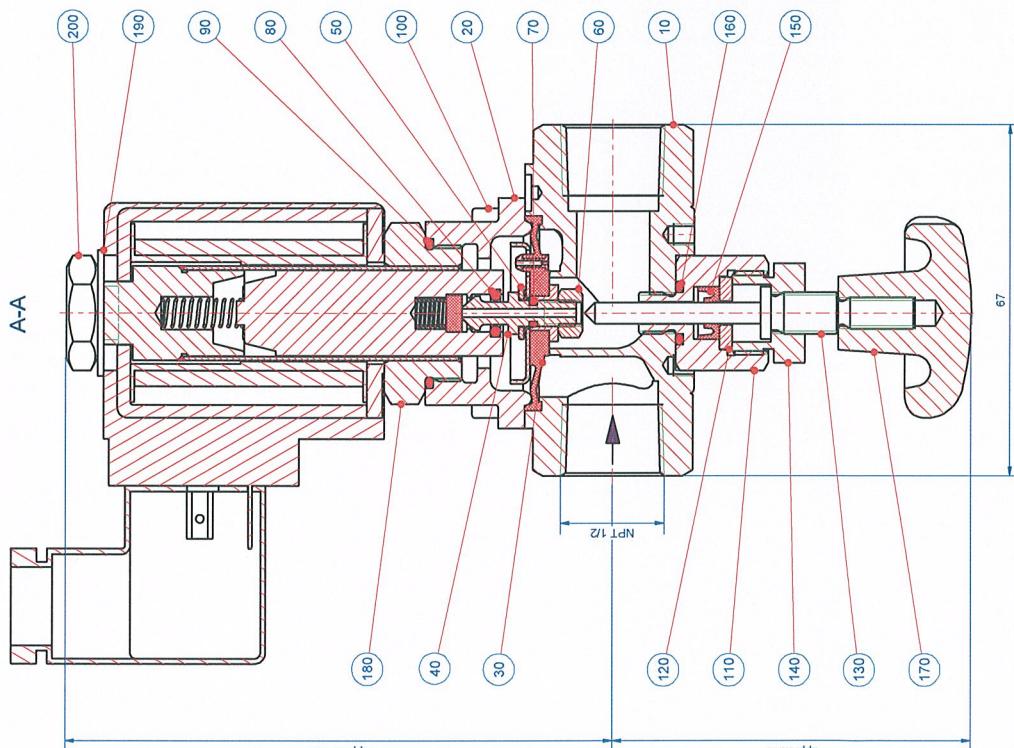
卷之三

Datum  
*Date*

## Werksachverständiger *Work inspector*

**M.B. VALVE SERVICE s.r.l.**  
Via Zanica, 19/B - 24050 Grassobbio (BG)  
Cod. Fisc. e Partita IVA 03134620164  
TEL. 035/335621 FAX 035/3843864

Our Job: 12/00942/C  
 Your Order: 1222241  
 Your Job: 2F11A  
 P/n: 4323/0801/702-NR  
 Tags: KY 65.27A; KY 62.27B



\* Parts of the Service Set

Pos	No.	Article no.	Article name
10	1	B0001.004872	Body
20	1	B0002.002333	Bonnet
30	1	B0024.000648	Diaphragm
** 40	1	B0010.000184	Pilot seat
** 50	1	B0016.000369	Disc
** 60	1	B0014.000859	Nut
** 70	1	B0025.000350	O-Ring
** 80	1	B0025.000313	O-Ring
** 90	1	B0025.000440	O-Ring
100	4	B0018.000262	Screw
110	1	B0009.002353	Screw joint
120	1	B0011.001836	Disc
130	1	B0008.002472	Spindle
140	1	B0009.002292	Screw joint
** 150	1	B0026.000003	Lip seal
** 160	1	B0025.000385	O-Ring
170	1	B0017.000003	Star knob
** 180	1	B0020.001235	Solenoid tube
190	1	B0016.000404	Disc
200	1	B0014.000895	Nut
220	1	B0040.000339	Plug
210	1	B0051.000522	Solenoid

**GSR**

Ventitechnik

Germany

2/2 pilot operated,

diaphragm valve

part no. 043.03978

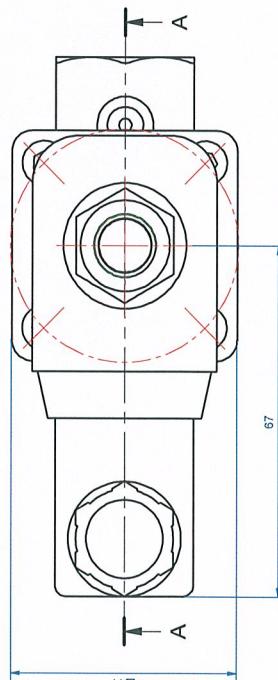
drawing no.

88-0022288

page

1

A2



Im Meisenfeld 1  
 D 32602 Veltheim  
 Tel.: 05225/77-0

Im Meisenfeld 1

D 32602 Veltheim

Tel.: 05225/77-0

2/2 pilot operated,

diaphragm valve

part no. 043.03978

drawing no.

88-0022288

page

1

A2

## Standardtype

Ventil in Ruhestellung geschlossen - (NC).

Der erregte Magnet öffnet eine Vorsteuerbohrung und hebt direkt oder unterstützt von der Druckdifferenz die Membrane vom Hauptsitz. Das Ventil schließt durch Federkraft.

## Standard type

Valve normally closed - NC. When energised, the solenoid will open/free the pilot chamber and the valve will open directly or supported by pressure differential the diaphragm from the valve seat. The valve closes by spring power.

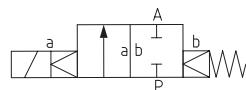
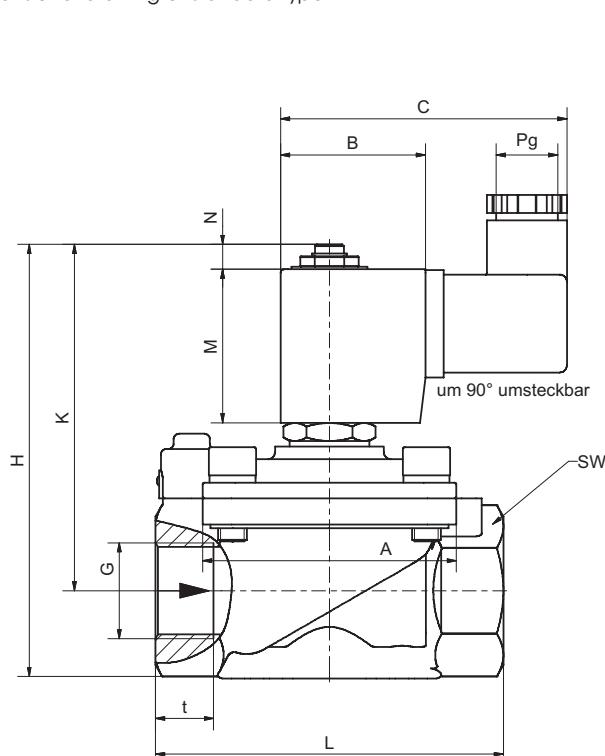


Steuerungsart: Type of control:	zwangsgesteuert force pilot operated	Metall. Innenteile: Metallic internals:	Messing und Edelstahl 1.4104 Brass and stainless steel (AISI 430F)
Konstruktion: Construction:	Sitzventil mit Membrandichtung Diaphragm design	Dichtung: Sealing:	NBR NBR
Anschluss: Connection:	G1/4-G2, DIN ISO 228 G1/4-G2, DIN ISO 228	Einbaulage: Installation:	nur mit stehendem Magneten actuator only in upright position
Druck: Pressure:	0-16 bar (s. Tabelle) 0-16 bar (see table)	Anschlussspannung: Supply voltage:	AC: 24,42,110,230V 50/60Hz DC: 24,110,205V=
Durchflussmedium: Medium:	neutrale, gasförmige u. flüssige Medien neutral, gaseous and liquid medium	Spannungstoleranz: Voltage tolerance:	+5% / -10% +5% / -10%
Viskosität: Viscosity:	22mm²/s 22mm²/s	Leistungsaufnahme: Power-consumption:	1012 = 18,5 Watt 0012 = 43/24 VA 1702 / 3702 = 25 Watt 1322 / 3322 = 30 Watt 4242 / 5242 = 46 Watt
Mediumtemperatur: Medium temperature:	-10 bis +80°C -10 up to +80°C	Schutzart: Protection class:	IP65 nach DIN 40050 IP65 according to DIN 40050
Umgebungstemperatur: Ambient temperature:	+35°C +35°C	Einschaltdauer: Duty factor:	100% ED-VDE 0580 100% ED-VDE 0580
Ventilgehäuse: Body material:	./10./... = Messing / Brass ./08./... = Edelstahl 1.4581 Stainless steel (AISI 316Ti)	Kabelanschluss: Cable connection:	Gerätestecker DIN 43650 / Klemmkasten DIN 43650 - Plug / Terminal box

Die Kv-Werte in der Tabelle gelten jeweils für das größte angegebene Magnetsystem!\*  
In each case, the flow-rate in the table are for the biggest mentioned solenoid system!\*

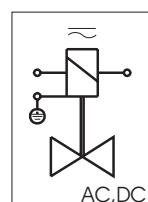
G	Sitz Orifice Ømm	Kv-Wert Flow-rate m³/h	Standardtype Standard type	max. Druck bei Magnettypen max. pressure regarding solenoid type			
				.012	.702	.322	.242
1/4	13,5	1,8	D4321/.01/....	0-12	0-16*	-	-
3/8	13,5	3,6	D4322/.01/....	0-12	0-16*	-	-
1/2	13,5	3,9	D4323/.01/....	0-12	0-16*	-	-
3/4	27,5	10,8	D4324/.01/....	0-10	0-16*	-	-
1	27,5	13,0	D4325/.01/....	0-10	0-16*	-	-
5/4	40,0	22,0	B4326/.01/....	-	-	0-10	0-16*
6/4	40,0	25,0	B4327/.01/....	-	-	0-10	0-16*
2	50,0	30,0	B4328/.01/....	-	-	0-6	0-16*

Maßzeichnung Standardausführung  
Dimensional drawing of standard type

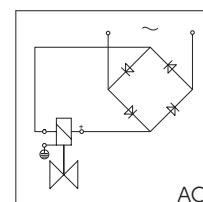


Schaltfunktion/Function:  
in Ruhestellung gesperrt - NC.  
normally closed - NC.

Anschlussplan / Connection diagram



Für Wechsel- und  
Gleichspannung.  
For AC and DC.



Mit vorgeschaltetem Gleichrichter  
für Wechselspannung.  
With rectifier for AC connection.

Erdung oder Schutzschaltung nach Vorschrift des zuständigen EVU.  
Grounding or earthing of the protective circuit in accordance with  
regulations of the responsible electric supply company.

Absicherung entsprechend der Stromaufnahme vorsehen.  
Appropriate protection according to the power-consumption.

Magnet Solenoid	.012		.702		.322		.242	
Type	4321-4323	4324/25	4321-4323	4324/25	4326/27	4328	4326/27	4328
G	1/4-1/2	3/4-1	1/4-1/2	3/4-1	5/4-6/4	2	5/4-6/4	2
A	44	70	44	70	96	112	96	112
B	35x32	35x32	35x35	35x35	Ø63	Ø63	Ø77	Ø77
C	58	58	66	66	76	82	82	82
H	122	130	127	145	208	242	233	242
K	107	117	114	122	175	207	200	207
L	67	96	67	96	140	168	140	168
M	40	40	50	50	59	59	70	70
N	10	10	10	10	16	19	19	19
SW	27	41	27	41	58	70	58	70
t	12	16	12	16	22	25	22	25
Pg	11	11	11	11	11	13,5	13,5	13,5
kg	1,0	1,6	1,0	1,8	4,5	6,5	5,7	6,5

Ventiloptionen

/

Valve options

Stromlos geöffnet = NO  
Non energised open = NO

Handbetätigung = HA  
Manual operation = HA

Dichtung = FKM, EPDM  
Seal = FKM, EPDM

Regulierbare Schließdämpfung (ab G3/4)= SR  
Device for adjustable close damping (from G3/4)= SR

Andere Durchflussmedien und Viskositäten  
Varying medium and viscosity ranges

Öl- und fettfrei = OF  
Free of oil and grease = OF (for oxygen applications)

Abweichende Temperaturen und Drücke  
Varying temperature and pressure ranges

Buntmetallfrei = BF  
Free of brass and bronze = BF

Stellungsanzeiger (Endschalter ab G3/4 mit /.322 Magnet) = EH  
Position indicator (Reed contact from G3/4 with /.322 solenoid) = EH

Abgedichteter Ankerraum = AA  
Sealed plunger = AA

Ex-Schutz= EX II 2G Ex e mb II T4, Ex II 2G EEx md IIC T4 (oder T5)  
Explosion proof= EX II 2G Ex e mb II T4, Ex II 2G EEx md IIC T4 (or T5)

Ausführung geeignet zum Einbau mit liegenden  
Magneten = MF  
Mounting of the actuator in hanging position = MF

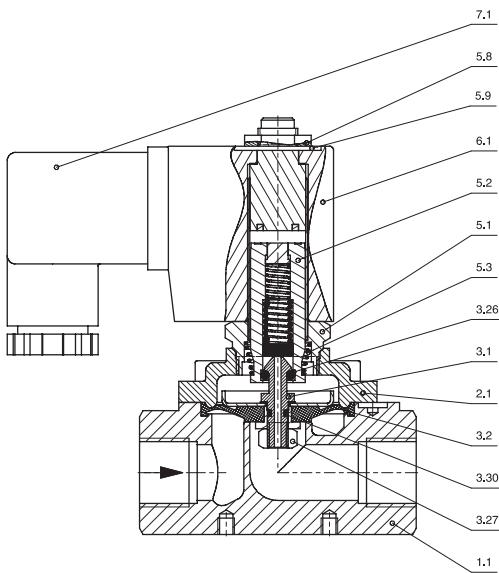
Temperaturausführung bis +130°C = TM  
Design for high temperature up to +130°C = TM

Andere Exschutzzarten auf Anfrage  
Further explosion proofs on demand

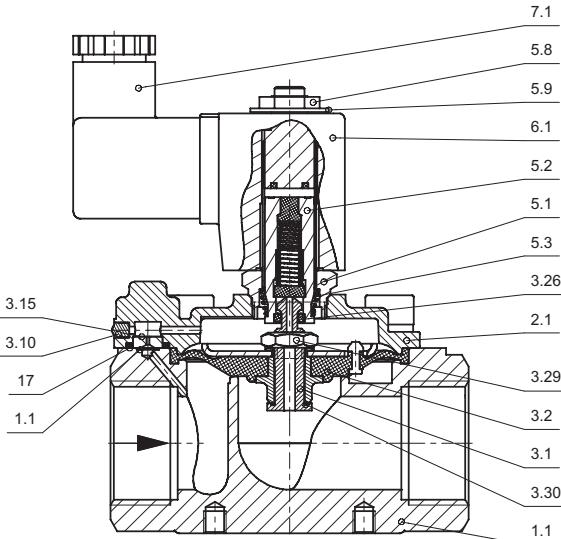
Stückliste - Parts list

- K1.1 Armatur / Valve body
- K2.1 Deckel / Bonnet
- \*K3.1 Vorsteuersitz / Pilot seat
- \*K3.2 Membrane / Diaphragm
- \*K3.3 Führungsstern / Guiding insert
- \*K3.4 Vorsteuerspindel / Pilot spindle
- K3.6 Zylinderschraube / Cylinder screw
- \*K3.7 Überwurfmutter / Union nut
- \*K3.8 O-Ring / O-ring
- K3.10 Verschlussstopfen / Sealing plug
- K3.12 Scheibe / Disk
- K3.13 Dämpfungsschraube / Damping screw
- K3.15 Filteraufnahme / Filter retainer
- \*K3.19 O-Ring / O-ring
- \*K3.23 O-Ring / O-ring
- \*K3.24 O-Ring / O-ring
- K3.25 Filtersieb / Strainer
- \*K3.26 O-Ring / O-ring
- \*K3.27 6-kt. Mutter / Hexagon nut
- K3.28 6-kt. Mutter / Hexagon nut
- \*K3.29 6-kt. Mutter / Hexagon nut
- \*K3.30 O-Ring / O-ring
- \*K3.31 O-Ring / O-ring
- \*K3.33 Feder / Spring
- K5.1 Magnethülse / Solenoid tube
- \*K5.2 Magnetanker / Solenoid plunger
- \*K5.3 Ankerfeder / Plunger spring
- K5.4 Druckstück / Pressure piece
- K5.5 O-Ring / O-ring
- K5.6 Scheibe / Disk
- K5.7 Zylinderschraube / Cylinder screw
- K5.8 6.-kt. Mutter / Hexagon nut
- K5.9 Wellscheibe / Corrugated disk
- K6.1 Magnet / Solenoid
- K7.1 Gerätestecker / Plug

Baureihe / Type D4321-D4323



Baureihe / Type D4324 / D4325



\* = Bestandteil des Ersatzteilepäckchens  
(je nach Ausführung freibleibend)  
\* = Part of the service set. (These specifications are without obligation).

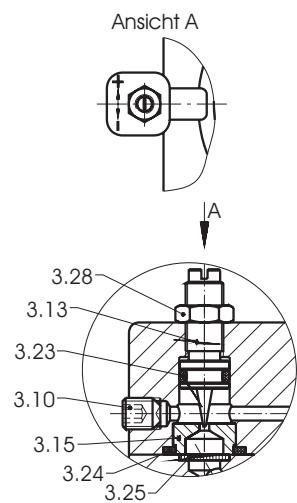
Regulierbare Schließdämpfung - SR (von G5/4-G2 serienmäßig)  
Device for adjustable close damping - SR  
(from G5/4-G2 standard)

Schraube nach rechts drehen : Ventil schließt langsamer

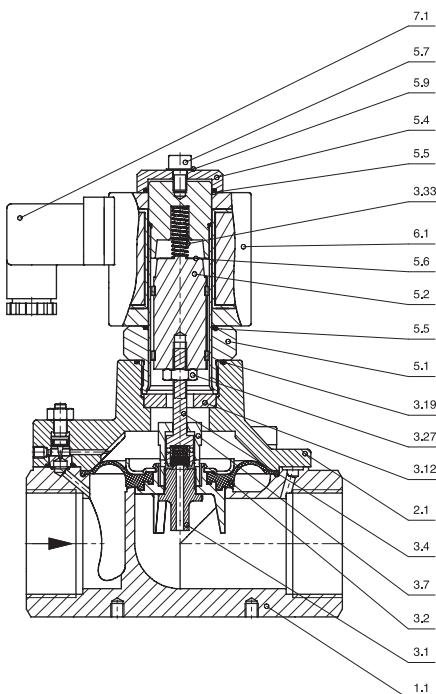
Screw to the right site : Valve closes- slower

Schraube nach links drehen : Ventil schließt schneller

Screw to the left site : Valve closes - faster



Baureihe / Type B4326 - B4328



## Ventiloptionen / Valve options

Handbetätigung - HA  
Manual operation - HA

K3.61 Zwischenverschraubung / screw joint

K3.62 Spindel / Spindle

K3.63 Verschraubung / Screw joint

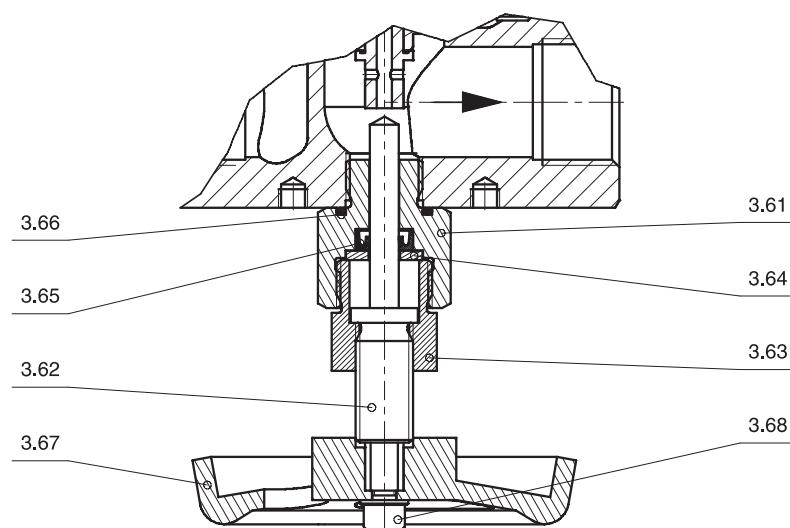
K3.64 Scheibe / Disk

K3.65 Nutring / U-ring

K3.66 O-Ring / O-ring

K3.67 Handrad / Handwheel

K3.68 Zylinderschraube / Cylinder screw



Stellungsanzeiger - EH (ab G3/4 mit Magnet / .322)  
Position indicator - EH (from G3/4 with solenoid / .322)

K3.33 Feder / Spring

K3.75 Zwischenverschraubung / Screw joint

K3.76 Spindel / Spindle

K3.77 Befestigungsmutter / Mounting nut

K3.79 O-Ring / O-ring

K3.82 Senkschraube / Countersunk bolt

K3.83 Permanentmagnet / Permanent magnet

K3.84 Klemmring / Clamping ring

K3.85 Verschraubung / Screw joint

K3.86 Endschalter / Position indicator

K3.87 Scheibe / Disk

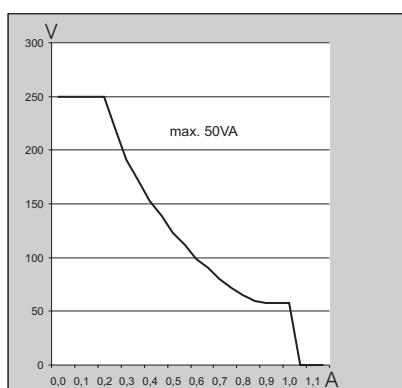
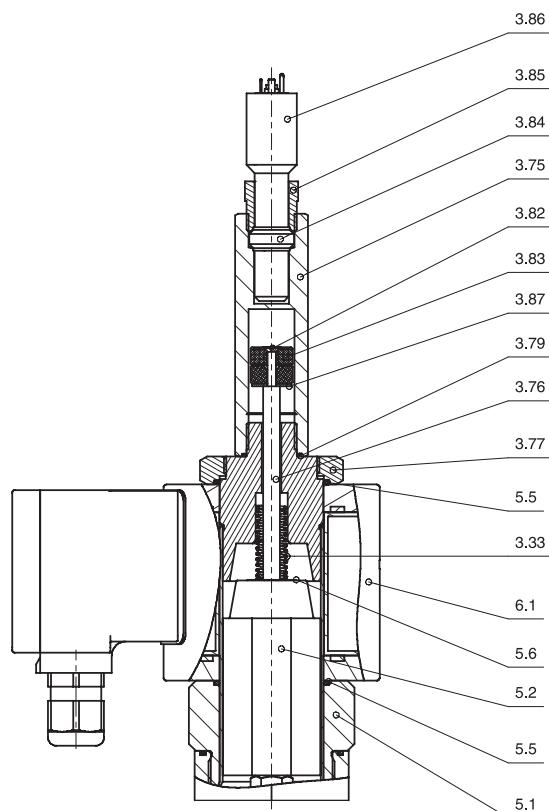
K5.1 Magnethülse / Solenoid tube

K5.2 Magnetanker / Solenoid plunger

K5.5 O-Ring / O-ring

K5.6 Scheibe / Disk

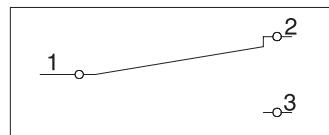
K6.1 Magnet / Solenoid



Schaltleistungsdiagramm  
Braking capacity diagram

Anschlussplan  
Connection diagram

Endschalter / Position indicator



## Operating instructions for force pilot operated solenoid valves

**It is essential to follow these installation and operating instructions. To ensure perfect functioning and long service life, the limit values for pressures and temperatures must be observed, as must the information contained in the data sheet and delivery note.**  
**You must also comply with national regulations when in use in safety areas. Failure to follow these instructions will exempt us from all liability and will invalidate the warranty on equipment and accessories.**

### ? Function:

Standard force pilot operated valves are always closed when de-energised (NC). In the event of the auxiliary power failure, these valves close automatically. In the de-energised position, the plunger closes the pilot orifice by means of spring force. The pressure of the medium reaches the upper control chamber via the build-up orifice and the diaphragm or piston then seals the valve seat using spring power, assisted by the pressure of the medium. If the solenoid is energised by applying a voltage, the plunger lifts opening the pilot orifice and the pressure in the control chamber falls. The coupled sealing element is lifted by the solenoid directly off the valve seat. If there is a pressure difference between "P" and "A", this assists the opening procedure.

### ? Storage and transportation:

The valve must be properly protected and stored in a clean, dry area. For the handling of heavy valves, only use the eye bolts provided for this purpose and/or suitable certified slings on the valve body. Never use the actuator as a carrying handle or lever!!!

### ? Installation:

When installing, the direction of the medium which flows through the valve, must be taken into consideration. The valve is designed to function in a specific direction only, and its function is defined. If the valve is not correctly installed, it will not function. To prevent the risk of this happening, the valve is engraved with permanent legible markings on the connections. P for input, A for output and R for return flow or, in the case of 3/2-way valves, for the second output. Install the valve only with upright actuator in horizontal direction unless there is the opposite indicated in other documents like data sheet or quotation.

Always take into consideration the direction of the arrows or the connection markings (P, A, R) on the housing, in respect to the flow of the medium.

Before installation, rinse through pipes with pressure intervals. In accordance with DIN 3394 and DIN EN 161, a strainer must be fitted upstream of every shut-off valve so as to ensure smooth functioning with neutral media. Dirt may cause blockage of small orifices such as the pilot or reduction orifice, and may restrict or prevent functions such as closing/opening the valve.

If a valve is installed with a sleeve connection, please do not use the coil as a lever. Connection flanges, inclusive of sealing materials and connection elements, conform to the standards of pipeline manufacturing and are the responsibility of the system engineer.

### ? Putting into operation:

Depending on the area of use, surface temperatures higher or lower than the ambient temperatures may occur on the valve housing. In system engineering, pipes with large temperature differences relative to the ambient temperature are usually insulated accordingly to save energy. This insulation should also include the housing of the industrial fittings. The solenoid must not be insulated both for thermal reasons (heat build-up) and also to permit easy maintenance. Insulating the housing excludes the possible risk of burns. The decision regarding insulation is taken by the system engineer and is thus his responsibility. Finally, there is a small residual risk caused by high temperature on the solenoid, which depends on the frequency of operation. Caution: Surface temperature can exceed 100°C! **Attention:** Coils with alternating voltage are only to be operated when they are fitted to a solenoid tube. The operation without such a tube could lead to a higher flow of voltage through the coil than approved and therefore leading to a thermal self-destruction of the coil.

Some valves are equipped with adjustable closing regulation, which is set at the factory for reliable valve functioning with regard to closing time at a viscosity of the medium of up to 22 mm<sup>2</sup>/s. The setting is made using a locked adjustment screw and can, if required, be changed and readjusted by the customer to suit the particular system. This entails the risk that, if handled incorrectly, the adjustment screw might be removed completely and the medium would be able to escape to the outside through the control orifice.

Furthermore, the closing time is set at the factory so that up to the stated viscosity of the medium no, or only minimal, pressure surges occur in the pipe system. Adjustment by the customer/system operator may, however, be necessary (depending on the viscosity of the medium). For this reason, the adjustment screw must not be fixed. It is therefore the responsibility of the system operator to have the adjustment made by expert staff when the system is put into operation and thereby prevent the risk of the adjustment screw being removed completely.

When operating the industrial valve within a system, electrostatic charges may occur due to the flow of the medium. These charges are normally discharged to earth via a cable connection or via the electrically conductive pipe system. The industrial valve has a threaded hole in the housing to permit connection of a cable.

### ? Electrical connection:

The solenoid systems in the standard range have either a plug-in connection or a terminal box on the solenoid.

Before connecting the power supply, check the specified type of current and voltage on the rating plate and delivery note.

Voltage tolerance +5%/-10%. The valves are designed for continuous duty. The operating time is the function in which the solenoid remains energised until the load temperature is reached. Protect electrical connections against continuous moisture.

If installed outdoors, provide adequate covering. IP 65 enclosure protection means that the unit is only designed for short exposure to moisture. Electrical connections must only be made by qualified staff. In the case of solenoids that only operate with accompanying rectifier or switching electronics, it is obligatory for these to be connected. The maximum tightening torque for coil .182 is 1,2 Nm!

### ? Possible malfunctions:

Check the direction of flow, voltage, place of use and operating pressure!

- ? Valve does not close
  - no, or inadequate, Ap or flow rate is present
  - dirt in the control orifices
  - plunger is sticking
  - rated voltage is not present
  - incorrect installation position
  - direction of arrow is not identical with direction of flow

- Valve does not open
  - diaphragm or piston is defective
  - load relief orifice is blocked (inspect the seal or screw connection)
  - plunger does not rise (audible knocking "clicking")
  - connection voltage has been interrupted or is insufficient
  - solenoid or rectifier is defective
  - plunger is sticking in a blocked tube.  
(When the plunger does not reach the stroke end position, this causes the solenoid to fail (thermal overload) after a short time if the alternating current solenoid is energised)
  - rated voltage and coil voltage are different

### ? Action

Action must only be taken by qualified staff and using suitable tools. If the valve is still under warranty, you must consult GSR before taking any action, failure to do this will result in the termination of the warranty. When added options are present and the valve differs from the standard, due to the different possibilities and/or of the valves special functions, please follow the technical data as shown in the delivery note or preceding offer. In this case these operating instructions only apply with limitations.

### ? Maintenance

The performance of maintenance on the valve depends upon the operating conditions. It is recommended to clean the valve at regular intervals whereby the interval is depending upon the medium and the operating conditions. The valve should be checked at least every 6 months to see if it is functioning correctly and if it has any outward leakage. Whilst undergoing maintenance, the various components should be inspected for excessive wear. For the servicing of GSR products, we offer a complete service set which consists of the appropriate spare parts. If difficulties arise during the fitting, operation or maintenance as well as any uncertainty reference the valve, it is advised that contact is made with GSR for further information. In order to maintain the efficiency and function of the valve it is recommended that the valve be actuated at regular intervals.

### ? Information about the Pressure Equipment Directive:

All valves are designed and manufactured in accordance with the EU Directive 97/23/EC (Pressure Equipment Directive). Equipment that has no CE mark on the housing comes under Article 3 Paragraph 3 of the Directive. They are designed and manufactured on the basis of "good engineering practice" and are not allowed to carry a CE mark. **Labelling of the device: none**

State 05/2005 – Errors excepted, subject to change!

# Konformitätserklärung

## Declaration of Conformity



Im Meisenfeld 1  
D-32602 Vlotho

Tel.: 05228/779-0  
Fax: 05228/779-90

im Sinne der EG-Druckgeräterichtlinie 97/23/EG (DGRL)  
in compliance with EC pressure equipment directive 97/23/EC (PED)

Hiermit erklären wir in alleiniger Verantwortung, daß das nachfolgend aufgeführte Ventil die einschlägigen Normen erfüllt und als nichtselbständiges Gerät zum Einbau in eine Maschine oder in eine Anlage bestimmt ist, wobei ihre Inbetriebnahme solange untersagt ist, bis sichergestellt wurde, daß die Gesamtmaschine oder Anlage den Bestimmungen der einschlägigen EG-Richtlinien entspricht.

We herewith declare for our own responsibility that the product mentioned below comply with the relevant safety requirements. It is destined to be assembled to another machine or installation as a non-self-contained unit. Its use is not allowed until it hasn't made sure that the whole machine or installation refers to the relevant requirements of the Common Market Guidelines.

Bezeichnung/Name of product/:Nom de produit:

**Siehe Anlage zur Konformitätserklärung.  
Ventile entsprechend der Kategorien nach Anhang II der Druckgeräterichtlinie 97/23/EG.**

**See appendix to declaration of conformity.  
Valves corresponding to the categories according to appendix II pressure equipment directive 97/23/EC.**

Angewandtes Konformitätsbewertungsverfahren /Applied conformity assessment PED:

**Modul H**

**Nach Anhang III der 97/23/EG**

Benannte Stelle für das Konformitätsbewertungsverfahren /notified body for conformity assessment PED:

**Bureau Veritas S.A., Paris/Frankreich (Kennzeichen 0062)**

Angewandte Richtlinien/Applied directives:

<b>98/37/EG</b>	<b>Maschinenrichtlinie</b>
<b>73/23/EG</b>	<b>Niederspannungsrichtlinie</b>
<b>89/336/EG</b>	<b>Elektromagnetische Verträglichkeit</b>
<b>97/23/EG</b>	<b>Druckgeräterichtlinie</b>

Angewandte Normen, technische Spezifikationen/Applied national standards, technical specifications:

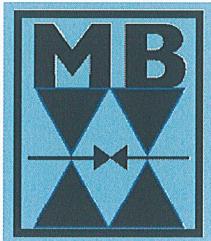
<b>DIN EN 292</b>	<b>Sicherheit von Maschinen</b>
<b>DIN EN 983</b>	<b>Fluidtechnische Anlagen</b>
<b>DIN EN 60204-1</b>	<b>Elektrische Ausrüstungen</b>
<b>DIN VDE 0580</b>	<b>Elektromagnetische Geräte</b>
<b>DIN 3840</b>	<b>Armaturengehäuse</b>

Ort und Datum/  
Place and date

Name und Unterschrift der befugten Person/  
Name and signature of authorized person

Vlotho, den 28.05.2002

W. Heil  
Geschäftsführer/managing director



## M.B. VALVESERVICE S.R.L.

Via Zanica 19e - 24050 Grassobbio (BG)

Tel. 0039 (0)35 335621 - Fax 0039 (0)35 3843864

P.I. 03134620164

**info@mbvalveservice.it**

Spett.Le

DESMET BALLESTRA SPA

VIA PIERO PORTALUPPI, 17

20138 MILANO MI

Grassobbio ,03/12/2012

Oggetto : DICHIARAZIONE DI CONFORMITA' / CONFORMITY DECLARATION

VS ORDINE 122241 del 05/10/2012 / NS COMM. 12/00942/C del 04/10/2012

Nr 2 SOLENOID VALVE p/n 3523/0804/T802TH-HA-NG

Nr 1 SOLENOID VALVES p/n 4323/1001/.702-HA

Nr 2 SOLENOID VALVE p/n 4323/1001/.702-HA-NG

Nr 2 SOLENOID VALVE p/n 4323/0801/.702-NR

Con la presente confermiamo che le apparecchiature fornitevi a fronte del Vostro ordine sopracitato sono state collaudate e rispondono alle caratteristiche riportate a catalogo.

*We hereby confirm that the devices supplied you as per your above mentioned order have been tested and respect the catalogue data.*

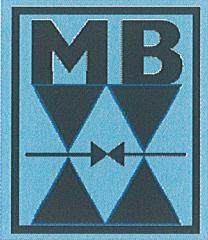
M.B. VALVESERVICE

**M.B. VALVESERVICE s.r.l.**

Via Zanica, 19e - 24050 Grassobbio (BG)

Cod. Fiscale e Partita IVA 03134620164

TEL. 035/335621 - FAX 035/3843864



## M.B. VALVESERVICE S.R.L.

Via Zanica 19e - 24050 Grassobbio (BG)  
Tel. 0039 (0)35 335621 - Fax 0039 (0)35 3843864  
P.I. 03134620164  
[info@mbvalveservice.it](mailto:info@mbvalveservice.it)

Spett.Le  
DESMET BALLESTRA SPA  
VIA PIERO PORTALUPPI, 17  
20138 MILANO MI

Grassobbio ,03/12/2012

OBJECT : DUAL USE

The undersigned MASSIMO BOLLA, in his/her capacity as Managing Director at  
M.B. VALVESERVICE S.R.L., hereby

DECLARES

that the goods described on the DDT 001208/12 are

"According to the regulation CE 1334/2000 which sets up a Community  
regime for the control of exports of dual-use items and technology,  
we declare that the products covered by this documents are "solenoid valves" therefore intended for  
civil purposes only

Bolla Massimo

M.B. VALVESERVICE s.r.l.  
Via Zanica 19e - 24050 Grassobbio (BG)  
Cod. Fiscale Partita IVA 03134620164  
TEL. 035/335621 - FAX 035/3843864

**BUREAU VERITAS**  
Certification



## Certificate

Awarded to



**GSR Ventiltechnik GmbH & Co. KG**  
Im Meisenfeld 1  
32602 Vlotho  
Germany

Bureau Veritas Certification certifies that the Management System of the above organisation has been assessed and found to be in accordance with the requirements of the standards detailed below.

---

### Standard

---

### DIN EN ISO 9001:2000

---

#### Scope of supply

---

Development, production and sales of solenoid and pressure controlled valves and accessories for industrial applications

Original approval date: **20.10.1999**

Date of the audit:

**12.11.2008**

Date of next recertification:

**11.11.2011**

Subject to the continual satisfactory operation of the organisation's Management System, this certificate is valid from:

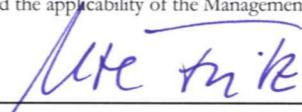
Date of certification:

**25.11.2008**

Valid until:

**24.11.2011**

To check this certificate validity you may contact Bureau Veritas Certification. Further clarifications regarding the scope of this certificate and the applicability of the Management Systems requirements may be obtained by consulting the organisation.

  
Date: **25.11.2008**

Certificate number: **DE8000373**





BUREAU  
VERITAS

**ZULASSUNGSBESCHEINIGUNG EINES QUALITÄTSSICHERUNGSSYSTEMS**  
**CERTIFICATE OF QUALITY SYSTEM APPROVAL**  
**N° CE-PED-H-GSR 001-08-DEU**

BUREAU VERITAS S.A. bestätigt im Rahmen der Zulassung zur Benannten Stelle (Kennnummer 0062), daß das Qualitätssicherungssystem des Herstellers in der Designlenkung, Herstellung, Endabnahme und andere Prüfungen der unten näher beschriebenen Druckgeräte einer Überprüfung auf Grundlage der Anforderungen des Anhang III Modul H der Druckgeräterichtlinie 97/23/EG, umgesetzt in französisches Recht durch die Beschlussfassung n°99-1046 vom 13. Dezember 1999, unterzogen worden ist und die Anforderung dieser Direktive erfüllt.

BUREAU VERITAS S.A., acting within the scope of its notification (notified body number 0062), attests that the quality system operated by the manufacturer for design, manufacture, final inspection and testing of the pressure equipment identified hereunder has been examined against the provisions of annex III, module H, of the Pressure Equipment directive n° 97/23/EC, transposed in the French law by the modified decree n° 99-1046 of 13 December 1999, and found to satisfy the provisions of the directive which apply to it.

Hersteller (Name) / Manufacturer (Name):

GSR Ventiltechnik GmbH & Co. KG

Adresse / Address:

Im Meisenfeld 1  
D-32602 Vlotho,  
GERMANY

Herstellerzeichen / Trademark:



Druckgerätebeschreibung / Equipment description :

solenoid valve / Magnetventile  
pressure controlled valves/druckgesteuerte Ventile  
motorized valves / Motorventile  
special valves / Spezialventile

Nummer der betreffenden Druckgeräte (falls erforderlich Liste im Anhang) / Identification of equipment concerned (list attached where necessary):

Dieses Zertifikat ist gültig bis / This certificate is valid until: 11/11/2011

Die Zulassung gilt unter der Bedingung der Durchführung von Überwachungsaudits, Prüfungen und Überprüfungen durch Bureau Veritas, laut den Anforderungen in der zwischen dem Hersteller und Bureau Veritas getroffenen Vereinbarung.

The approval is conditional upon the surveillance audits, tests and verifications to be carried out by Bureau Veritas, as per the provisions stated in the agreement signed by both the manufacturer and Bureau Veritas.

Diese Bescheinigung wird ungültig und der Hersteller muss die Konsequenzen voll selbst tragen, wenn er a) die Anforderungen an das zugelassenen Qualitätssicherungssystem, b) die Übereinstimmung der Druckgeräte mit den Anforderungen der Baureihe und c) die Prüfungen und Inspektion in der Endabnahme nicht einhält und insbesondere, wenn der Hersteller nicht die Anforderungen der Druckgeräterichtlinie 97/23/EG vom 29 Mai 1997, so wie sie in nationales Recht umgesetzt worden ist, einhält.

This certificate shall be void and the manufacturer shall alone bear any consequences pursuant to its use, where the manufacturer fails to comply with his undertakings as per the agreement in respect of (a) implementation of the approved quality system, (b) conformity of the equipment with the type and (c) inspection and tests on the final product, and generally where the manufacturer fails in particular to comply with any of his obligations under directive nr 97/23/EC of 29 May 1997 as transposed in the applicable law(s).

Ort / Made at	Datum (MM/DD/YYYY) / On (MM/DD/YYYY)	Name / Signed by	Unterschrift / Signature
Vlotho	11/12/2008	Andreas Klatt	

Registrier Code / Registration code: 2008/325.12.1351/P

Diesem Zertifikat liegen die Allgemeinen Geschäftsbedingungen der Bureau Veritas, siehe Anlage des Antrages, zu Grunde.

This certificate is subject to the terms of Bureau Veritas General Conditions of Service attached to the agreement signed by the applicant.

