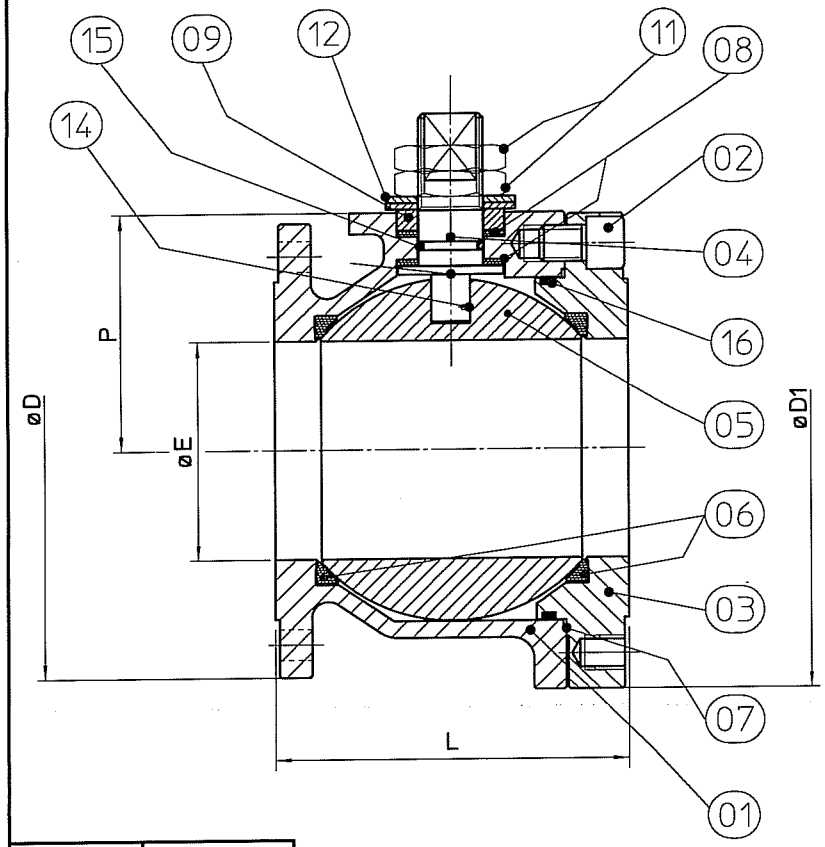
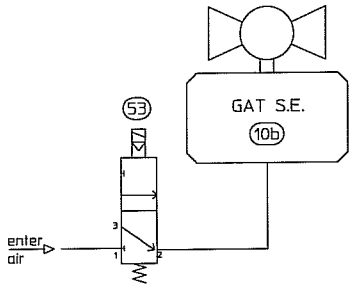


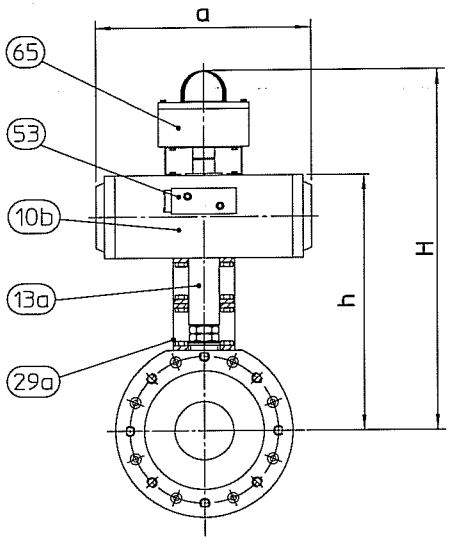
PNEUMATIC ARRANGEMENT

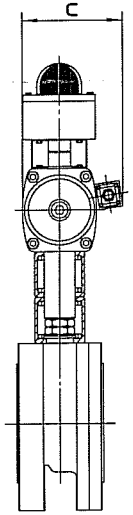


DN 150: HV62.2

POS.	PARTICOLARE	PART NAME	MATERIALE
65	SCATOLA PORTA MICRO	BOX	Mod. WDC0217201RR/BT
53	ELETTROVALVOLA	SOLENOID VALVE	Mod. SCG551A001MS
29a	SUPPORTO	ADAPTER PLATE	Fe 37 UNI 7070
16	O-RING CORPO	BODY O-RING	VITON
15	O-RING STELO	STEM O-RING	VITON
14	DISPOSITIVO ANTISTATICO	ANTISTATIC DEVICE	AISI 316
13a	SNODO	JOINT	ASTM A105
12	MOLLE A TAZZA	SPRING WASHER	50CrV4 UNI 3545
11	DADO / CONTRODADO	NUT/LOCK NUT	6S UNI 3740
10b	ATTUATORE PNEUMATICO	PNEUMATIC ACTUATOR	GAT S.E. 250 FAILURE CLOSE
09	PREMIGUARNIZIONE	GLAND	CF9SMnPb36 UNI 4838
08	BUSSOLA	WASHER	P.T.F.E. + GRAF.
07	GUARNIZIONE	BODY GASKET	P.T.F.E. + GRAF.
06	SEDI	SEATS	R.P.T.F.E.
05	SFERA	BALL	AISI 304
04	STELO	STEM	AISI 410
03	CHIUSURA	CLOSURE	ASTM A216 WCB
02	VITE CORPO	SCREW	8.8 UNI 3740
01	CORPO	BODY	ASTM A216 WCB

DN	150
ø"	6"
øE	152
L	243
øD	285
øD1	300
P	153
H	763
h	633
a	654
c	320
Kg.	141





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INDEX	DATE	SIGN.	NOTE	INDEX	DATE	SIGN.	NOTE

REVISION

	PREPARED	CHECKED	APPROVED
DATE	04/07/12	04/07/12	04/07/12
SIGN.			

ASSEMBLY DRAWING

ODL: 003720/2012

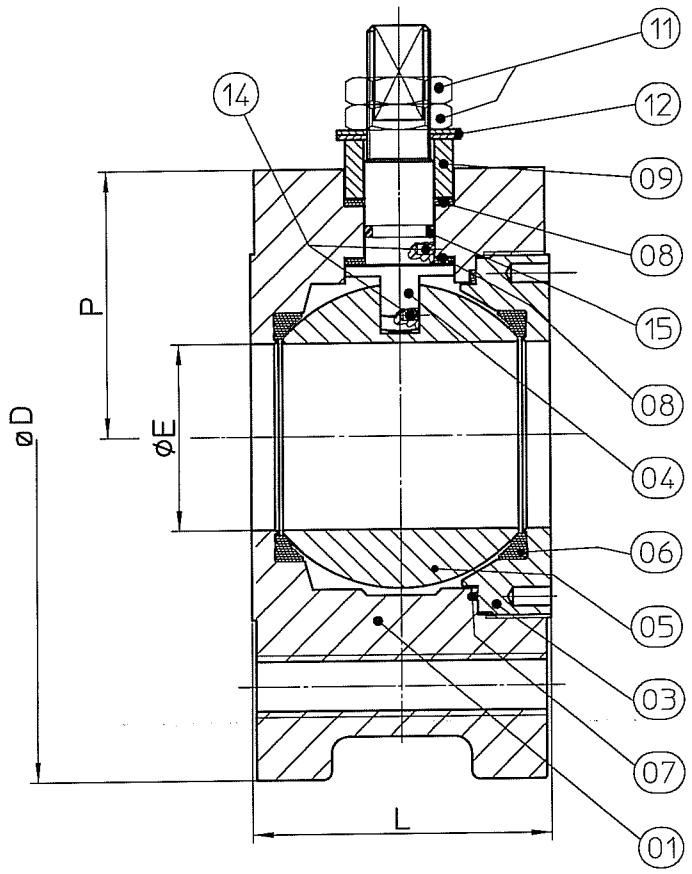
DESCRIPTION: BALL VALVE TYPE "ALFA 10 NF"

DN 150 ANSI 150 RF + PNEUMATIC ACTUATOR + SOLENOID VALVE + BOX

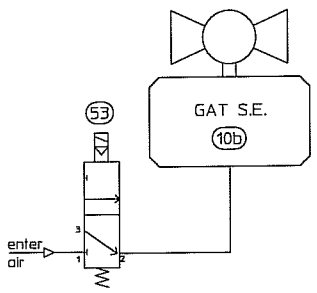
ALFA® VALVOLE s.r.l.

SCALE: //

DRAWING: S18187



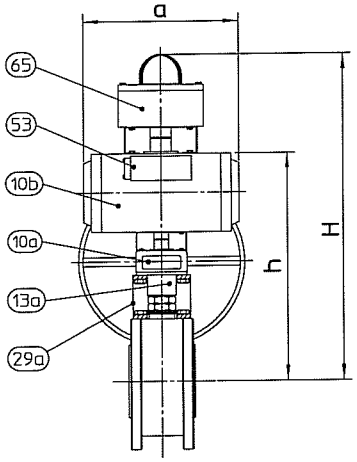
PNEUMATIC ARRANGEMENT

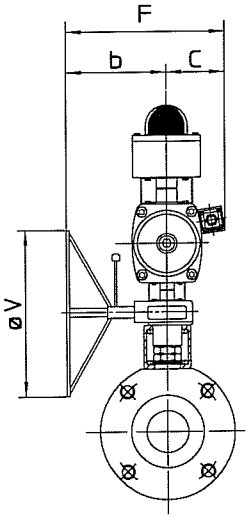


DN 25: KV 62.13

65	SCATOLA PORTA MICRO	BOX	Mod. WDC0217201RR/BT
53	ELETTROVALVOLA	SOLENOID VALVE	Mod. SCG551A001MS
29a	SUPPORTO	ADAPTER PLATE	Fe 37 UNI 7070
15	O-RING STELO	STEM O-RING	VITON
14	DISPOSITIVO ANTISTATICO	ANTISTATIC DEVICE	AISI 316
13a	SNODO	JOINT	ASTM A105
12	MOLLE A TAZZA	SPRING WASHER	50CrV4 UNI 3545
11	DADO/CONTRODADO	NUT/LOCK NUT	6S UNI 3740
10b	ATTUATORE PNEUMATICO	PNEUMATIC ACTUATOR	GAT S.E. 85 FAILURE CLOSE
10a	RIDUTTORE A SGANCIO	EMERGENCY RELEASE GEAR	MOD. RIO
09	PREMIGUARNIZIONE	GLAND	AISI 304
08	BUSSOLA	WASHER	P.T.F.E.
07	GUARNIZIONE CORPO	BODY GASKET	P.T.F.E.
06	SEDI	SEATS	R.P.T.F.E.
05	SFERA	BALL	AISI 316
04	STELO	STEM	AISI 316
03	CHIUSURA	CLOSURE	ASTM A351 CF8M
01	CORPO	BODY	ASTM A351 CF8M
POS.	PARTICOLARE	PART NAME	MATERIAL

DN	25
ø"	1"
øE	24
L	43
øD	105
P	43
H	420
h	290
a	250
b	135
c	107
F	242
øV	100
Kg.	7





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INDEX	DATE	SIGN.	NOTE	INDEX	DATE	SIGN.	NOTE

REVISION

	PREPARED	CHECKED	APPROVED	ASSEMBLY DRAWING	ODL: 003720/2012
DATE	06/07/12	06/07/12	06/07/12		
SIGN.					

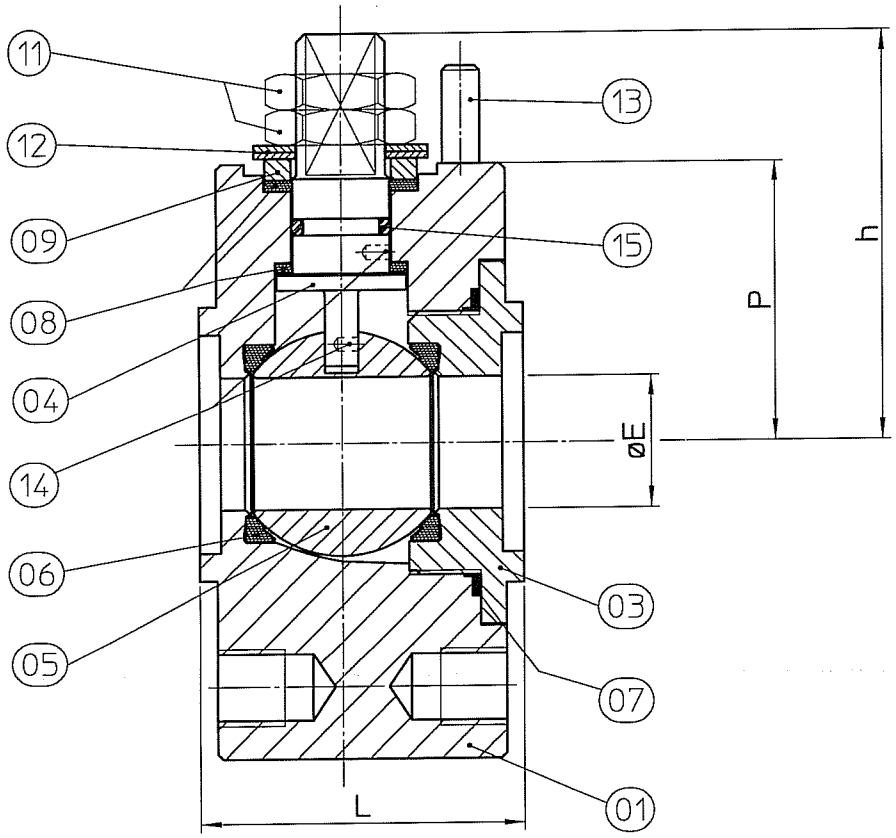
DESCRIPTION: BALL VALVE TYPE "ALFA 10 NF" DN 25

ANSI 150 RF + PNEUMATIC ACT. + DECLUTCHABLE GEAR BOX + SOLENOID VALVE + BOX

ALFA VALVOLE s.r.l.

SCALE: //

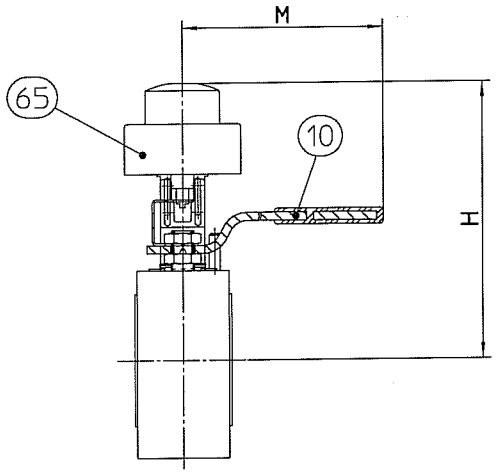
DRAWING: S18176



DN 80: HV 63.3A; HV63.3B.

65	SCATOLA PORTA MICRO	BOX	Mod. WDC0217201RR/BT
15	O-RING STELO	STEM O-RING	VITON
14	DISPOSITIVO ANTISTATICO	ANTISTATIC DEVICE	AISI 316
13	ARRESTO	STOP DEVICE	8.8 UNI 3740
12	MOLLE A TAZZA	SPRING WASHER	50CrV4 UNI 3545
11	DADO/CONTRODADO	NUT/LOCK NUT	6S UNI 3740
10	LEVA	LEVER	Fe 37 UNI 7070
09	PREMIGUARNIZIONE	GLAND	CF9SMnPb36 UNI 4838
08	BUSSOLA	WASHER	P.T.F.E. + GRAF.
07	GUARNIZIONE CORPO	BODY GASKET	P.T.F.E. + GRAF.
06	SEDI	SEATS	P.T.F.E. + AISI 50%min
05	SFERA	BALL	AISI 304+HARD CHROMIUM PLATING THK >35um
04	STELO	STEM	AISI 410
03	CHIUSURA	CLOSURE	ASTM A105
01	CORPO	BODY	ASTM A105
POS.	PARTICOLARE	PART NAME	MATERIALE

DN	80
ø"	3"
øE	76
L	150
M	440
H	293
h	141
P	95
Kg.	42



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INDEX	DATE	SIGN.	NOTE	INDEX	DATE	SIGN.	NOTE

REVISION

	PREPARED	CHECKED	APPROVED	ASSEMBLY DRAWING	ODL: 003720/2012
DATE	04/07/12	04/07/12	04/07/12		
SIGN.					

DESCRIPTION: BALL VALVE TYPE "ALFA 10 HP"

DN 80 ANSI 600 LF + BOX

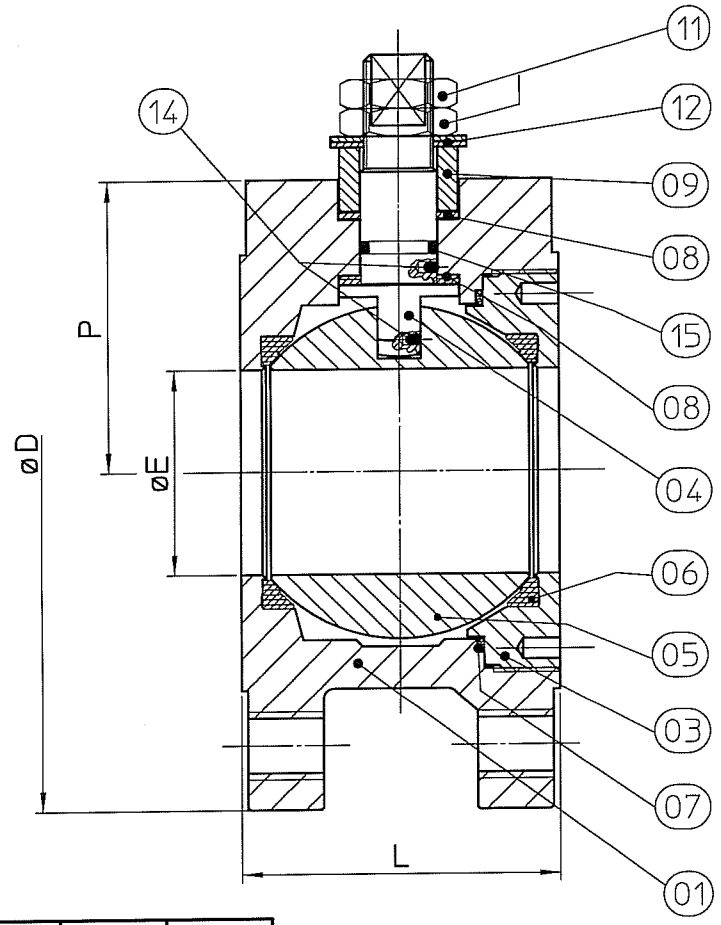
ALFA VALVOLE s.r.l.

SCALE: //

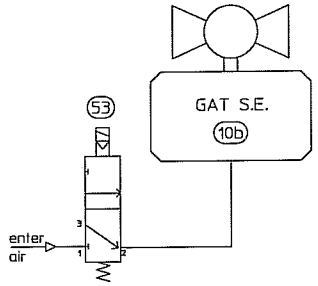
DRAWING: S18188

DN 50: KV62.9; KV62.11; KV62.12

DN 80: KV 62.8.

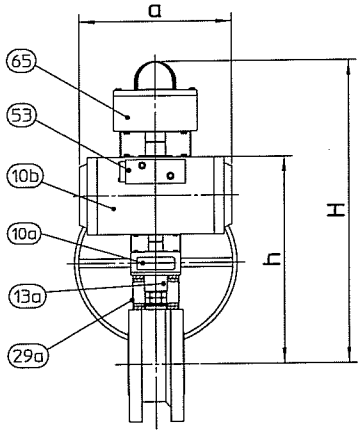


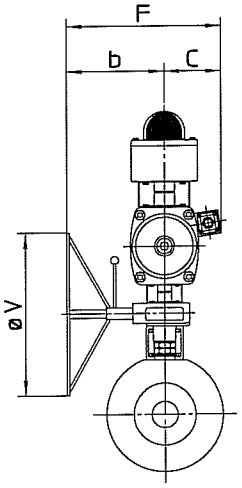
PNEUMATIC ARRANGEMENT



65	SCATOLA PORTA MICRO	BOX	Mod. WDC0217201RR/BT
53	ELETTROVALVOLA	SOLENOID VALVE	Mod. SCG551A001MS
29a	SUPPORTO	ADAPTER PLATE	FE 37 UNI 7070
15	O-RING STELO	STEM O-RING	VITON
14	DISPOSITIVO ANTISTATICO	ANTISTATIC DEVICE	AISI 316
13a	SNODO	JOINT	ASTM A105
12	MOLLE A TAZZA	SPRING WASHER	50CrV4 UNI 3545
11	DADO/CONTRODADO	NUT/LOCK NUT	6S UNI 3740
10b	ATTUATORE PNEUMATICO	PNEUMATIC ACTUATOR	GAT S.E. FAILURE CLOSE
10a	RIDUTTORE A SGANCIO	EMERGENCY RELEASE GEAR	**DN 50:** RI1 **DN 80:** RI2
09	PREMIGUARNIZIONE	GLAND	AISI 304
08	BUSSOLA	WASHER	P.T.F.E.
07	GUARNIZIONE CORPO	BODY GASKET	P.T.F.E.
06	SEDI	SEATS	R.P.T.F.E.
05	SFERA	BALL	AISI 316
04	STELO	STEM	**DN 50:** AISI 316 **DN 80:** ASTM A182 F51
03	CHIUSURA	CLOSURE	ASTM A351 CF8M
01	CORPO	BODY	ASTM A351 CF8M
POS.	**PARTICOLARE**	**PART NAME**	**MATERIAL**

DN	50	80
ø"	2"	3"
øE	48	76
L	83	120
øD	165	200
P	68.5	88.5
GAT S.E.	115	150
H	490	570
h	360	440
a	342	486
b	185	234
c	108	125
F	293	359
øV	250	300
Kg.	14	32





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1	25/07/12		STEM MATERIAL UPDATED				
0	04/07/12		FIRST ISSUE				

REVISION

	PREPARED	CHECKED	APPROVED
DATE	25/07/12	25/07/12	25/07/12
SIGN.			

ASSEMBLY DRAWING

ODL: 003720/2012

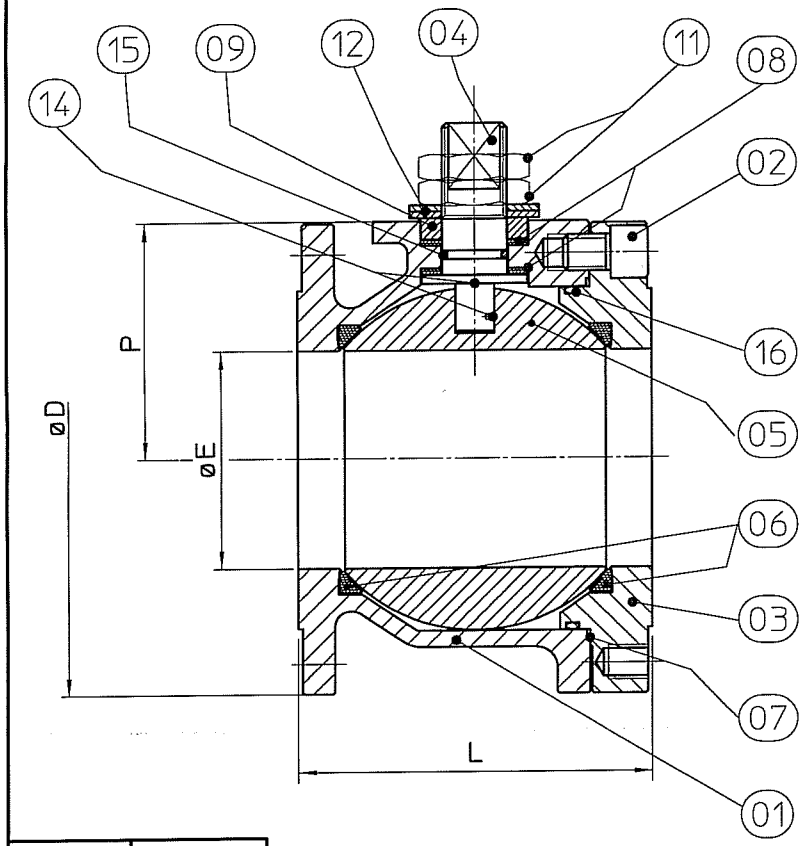
DESCRIPTION: BALL VALVE TYPE "ALFA 10 NF" DN 50 80

ANSI 150 RF + PNEUMATIC ACT. + DECLUTCHABLE GEAR BOX + SOLENOID VALVE + BOX

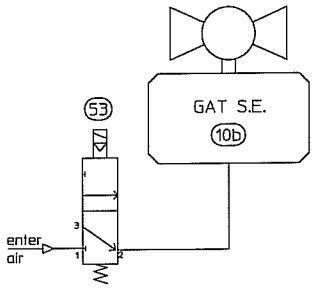
ALFA® VALVOLE s.r.l.

SCALE: //

DRAWING: S18189

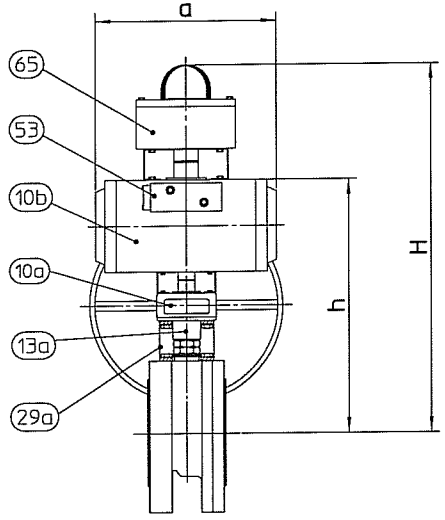


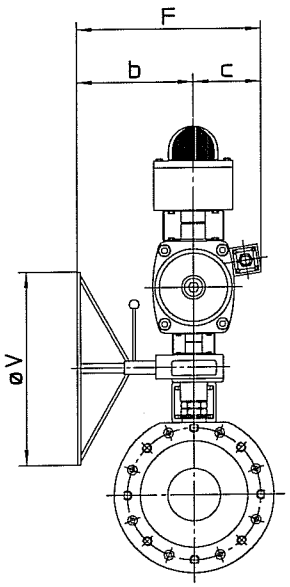
PNEUMATIC ARRANGEMENT



DN 100: KV 62.10

DN	100
ø"	4"
øE	95
L	152
øD	220
P	103
H	584
h	454
a	486
b	234
c	125
F	359
øV	300
Kg.	42





POS.	PARTICOLARE	PART NAME	MATERIAL
65	SCATOLA PORTA MICRO	BOX	Mod. WDC0217201RR/BT
53	ELETTROVALVOLA	SOLENOID VALVE	Mod. SCG551A001MS
29a	SUPPORTO	ADAPTER PLATE	Fe 37 UNI 7070
16	O-RING CORPO	BODY O-RING	VITON
15	O-RING STELO	STEM O-RING	VITON
14	DISPOSITIVO ANTISTATICO	ANTISTATIC DEVICE	AISI 316
13a	SNODO	JOINT	ASTM A105
12	MOLLE A TAZZA	SPRING WASHER	50CrV4 UNI 3545
11	DADO / CONTRODADO	NUT/LOCK NUT	6S UNI 3740
10b	ATTUATORE PNEUMATICO	PNEUMATIC ACTUATOR	GAT S.E. 150 FAILURE CLOSE
10a	RIDUTTORE A SGANCIO	EMERGENCY RELEASE GEAR	RI2
09	PREMIGUARNIZIONE	GLAND	AISI 304
08	BUSSOLA	WASHER	P.T.F.E.
07	GUARNIZIONE	BODY GASKET	P.T.F.E.
06	SEDI	SEATS	R.P.T.F.E.
05	SFERA	BALL	AISI 316
04	STELO	STEM	AISI 316
03	CHIUSURA	CLOSURE	ASTM A351 CF8M
02	VITE CORPO	SCREW	8.8 UNI 3740
01	CORPO	BODY	ASTM A351 CF8M

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INDEX	DATE	SIGN.	NOTE	INDEX	DATE	SIGN.	NOTE

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	PREPARED	CHECKED	APPROVED
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SIGN.			

ASSEMBLY DRAWING

ODL: 003720/2012

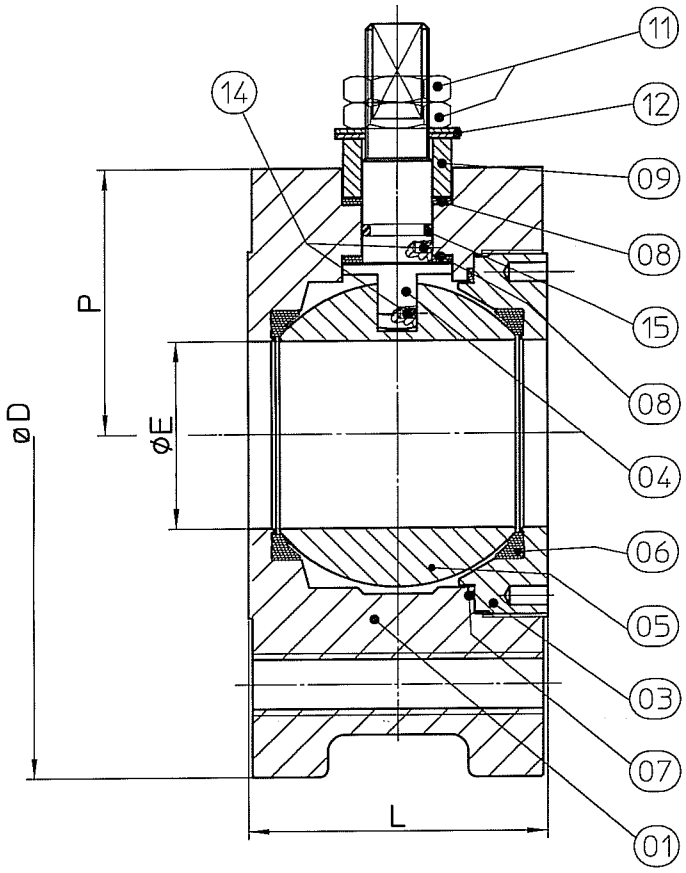
DESCRIPTION: BALL VALVE TYPE "ALFA 10 NF"

DN 100 ANSI 150 RF + PNEUMATIC ACTUATOR + SOLENOID VALVE + BOX

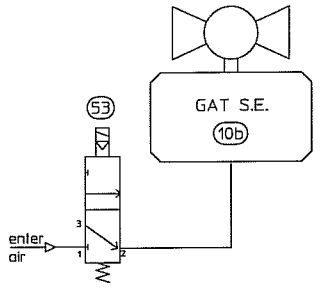
ALFA® VALVOLE s.r.l.

SCALE: //

DRAWING: S18190



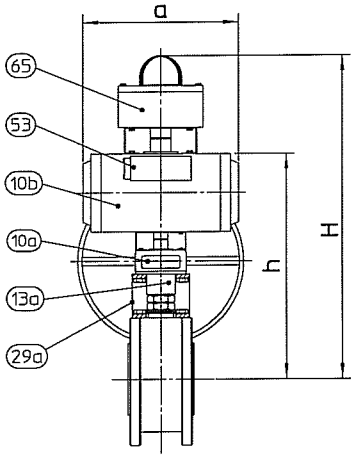
PNEUMATIC ARRANGEMENT

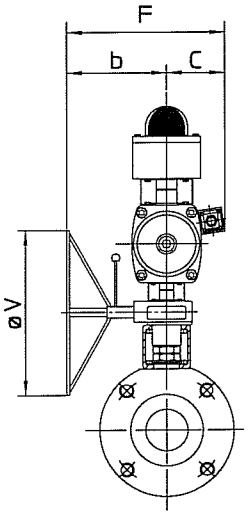


DN 25: TV63.1A; TV63.1B

65	SCATOLA PORTA MICRO	BOX	Mod. WDC0217201RR/BT
53	ELETTROVALVOLA	SOLENOID VALVE	Mod. SCG551A001MS
29a	SUPPORTO	ADAPTER PLATE	Fe 37 UNI 7070
15	O-RING STELO	STEM O-RING	VITON
14	DISPOSITIVO ANTISTATICO	ANTISTATIC DEVICE	AISI 316
13a	SNODO	JOINT	ASTM A105
12	MOLLE A TAZZA	SPRING WASHER	50CrV4 UNI 3545
11	DADO/CONTRODADO	NUT/LOCK NUT	6S UNI 3740
10b	ATTUATORE PNEUMATICO	PNEUMATIC ACTUATOR	GAT S.E. 85 FAILURE CLOSE
10a	RIDUTTORE A SGANCIO	EMERGENCY RELEASE GEAR	MOD. RIO
09	PREMIGUARNIZIONE	GLAND	CF9SMnPb36 UNI 4838
08	BUSSOLA	WASHER	P.T.F.E. + GRAF.
07	GUARNIZIONE CORPO	BODY GASKET	P.T.F.E. + GRAF.
06	SEDI	SEATS	P.T.F.E. + A.M.
05	SFERA	BALL	AISI 304
04	STELO	STEM	AISI 410
03	CHIUSURA	CLOSURE	ASTM A216 WCB
01	CORPO	BODY	ASTM A216 WCB
POS.	PARTICOLARE	PART NAME	MATERIAL

DN	25
ø"	1"
øE	24
L	43
øD	105
P	43
H	420
h	290
a	250
b	135
c	107
F	242
øV	100
Kg.	7





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INDEX	DATE	SIGN.	NOTE	INDEX	DATE	SIGN.	NOTE
.	.		.				
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REVISION

	PREPARED	CHECKED	APPROVED	ASSEMBLY DRAWING	ODL:
DATE	06/07/12	06/07/12	06/07/12		003720/2012
SIGN.					----------

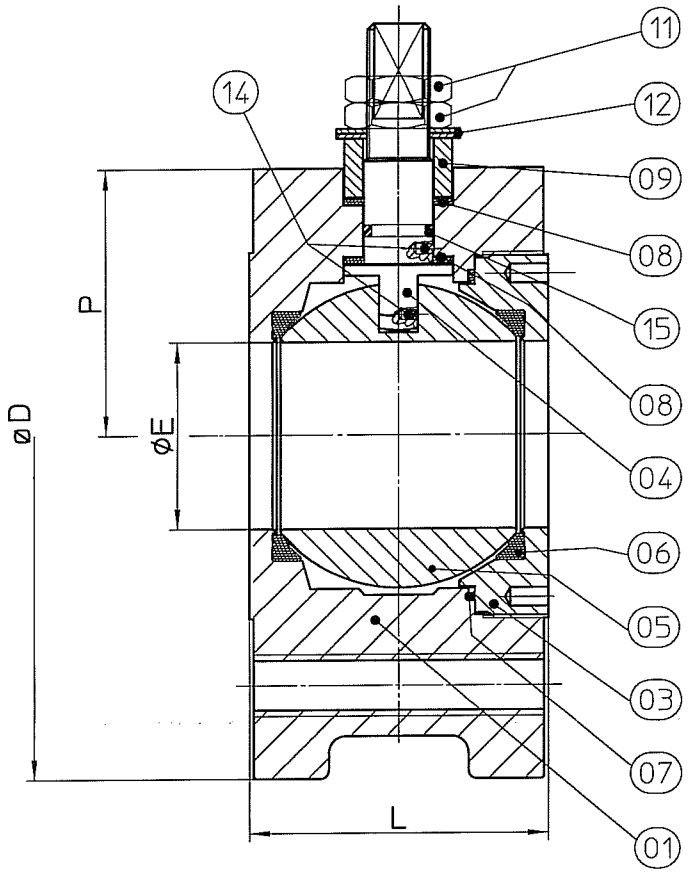
DESCRIPTION: BALL VALVE TYPE "ALFA 10 NF" DN 25

ANSI 150 RF + PNEUMATIC ACT. + DECLUTCHABLE GEAR BOX + SOLENOID VALVE + BOX

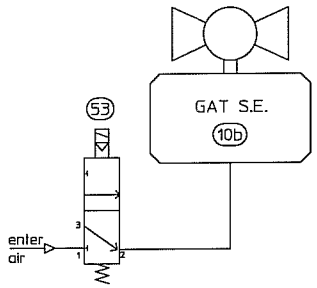
ALFA® VALVOLE s.r.l.

SCALE: //

DRAWING: S18191



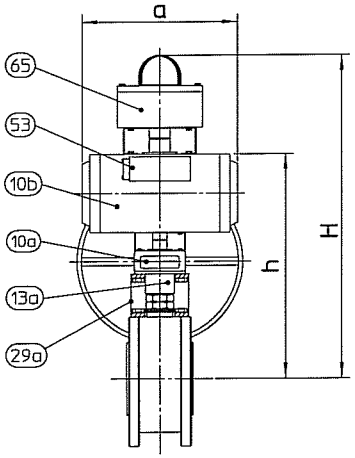
PNEUMATIC ARRANGEMENT

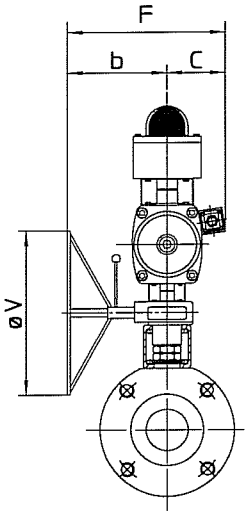


DN 25: HV64.10

65	SCATOLA PORTA MICRO	BOX	Mod. WDC0217201RR/BT
53	ELETTROVALVOLA	SOLENOID VALVE	Mod. SCG551A001MS
29a	SUPPORTO	ADAPTER PLATE	Fe 37 UNI 7070
15	O-RING STELO	STEM O-RING	VITON
14	DISPOSITIVO ANTISTATICO	ANTISTATIC DEVICE	AISI 316
13a	SNODO	JOINT	ASTM A105
12	MOLLE A TAZZA	SPRING WASHER	50CrV4 UNI 3545
11	DADO/CONTRODADO	NUT/LOCK NUT	6S UNI 3740
10b	ATTUATORE PNEUMATICO	PNEUMATIC ACTUATOR	GAT S.E. 85 FAILURE CLOSE
10a	RIDUTTORE A SGANCIO	EMERGENCY RELEASE GEAR	MOD. RIO
09	PREMIGUARNIZIONE	GLAND	CF9SMnPb36 UNI 4838
08	BUSSOLA	WASHER	P.T.F.E. + GRAF.
07	GUARNIZIONE CORPO	BODY GASKET	P.T.F.E. + GRAF.
06	SEDI	SEATS	R.P.T.F.E.
05	SFERA	BALL	AISI 304
04	STELO	STEM	AISI 410
03	CHIUSURA	CLOSURE	ASTM A216 WCB
01	CORPO	BODY	ASTM A216 WCB
POS.	PARTICOLARE	PART NAME	MATERIAL

DN	25
ø"	1"
øE	24
L	43
øD	105
P	43
H	420
h	290
a	250
b	135
c	107
F	242
øV	100
Kg.	7





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INDEX	DATE	SIGN.	NOTE	INDEX	DATE	SIGN.	NOTE

REVISION

	PREPARED	CHECKED	APPROVED	ODL:
DATE	06/07/12	06/07/12	06/07/12	003720/2012
SIGN.				---

ASSEMBLY DRAWING

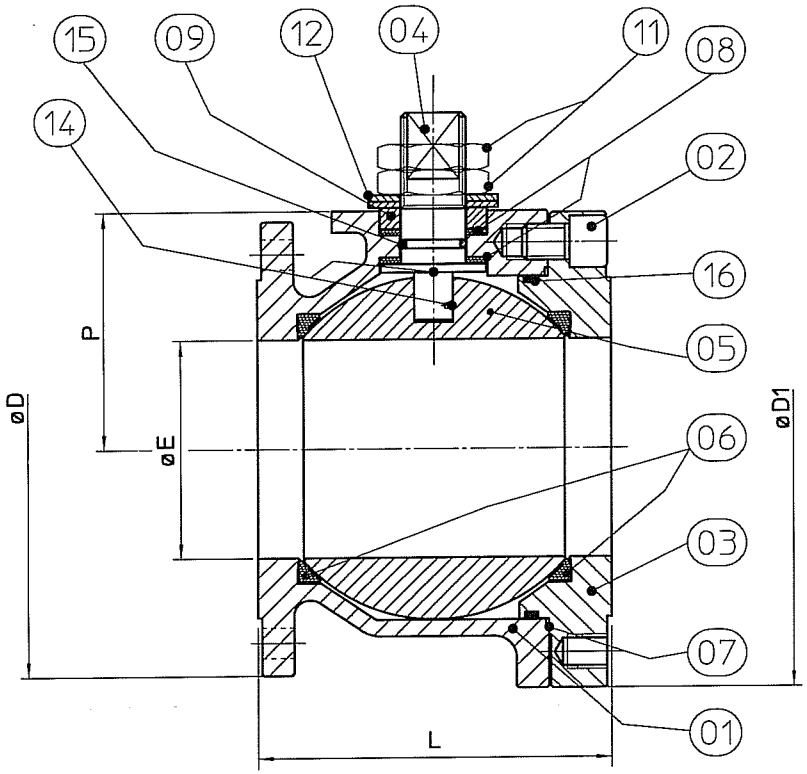
DESCRIPTION: BALL VALVE TYPE "ALFA 10 NF" DN 25

ANSI 150 RF + PNEUMATIC ACT. + DECLUTCHABLE GEAR BOX + SOLENOID VALVE + BOX

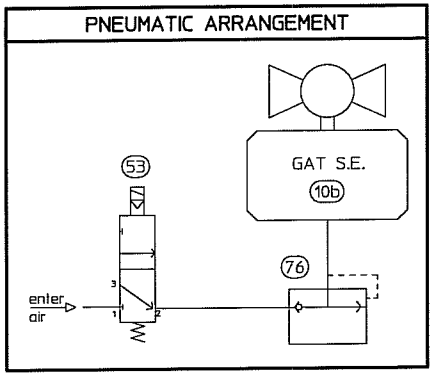
ALFA VALVOLE s.r.l.

SCALE: //

DRAWING: S18192



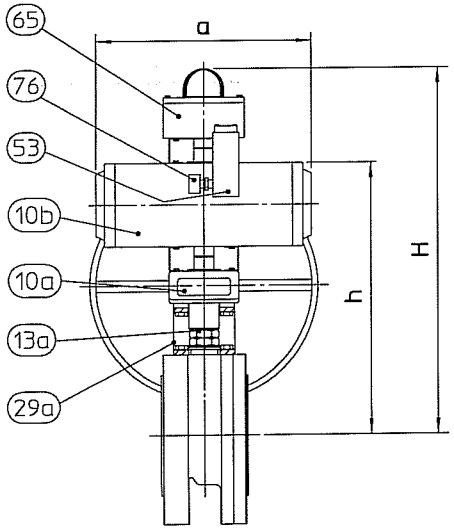
PNEUMATIC ARRANGEMENT

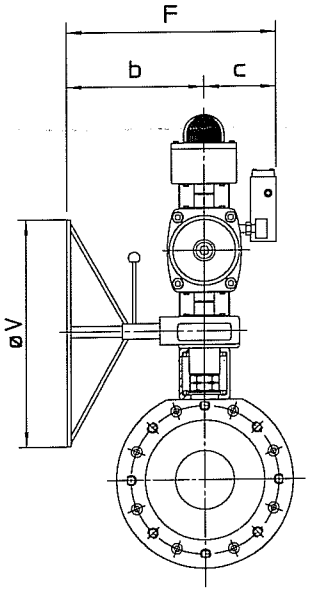


DN 150: KV63.2A; KV63.2B.

POS.	PARTICOLARE	PART NAME	MATERIALE
76	SCARICO RAPIDO	QUICK EXHAUST	ø1/4"
65	SCATOLA PORTA MICRO	BOX	Mod. WDC0217201RR/BT
53	ELETTROVALVOLA	SOLENOID VALVE	Mod. SCG551A001MS
29a	SUPPORTO	ADAPTER PLATE	Fe 37 UNI 7070
16	O-RING CORPO	BODY O-RING	VITON
15	O-RING STELO	STEM O-RING	VITON
14	DISPOSITIVO ANTISTATICO	ANTISTATIC DEVICE	AISI 316
13a	SNODO	JOINT	ASTM A105
12	MOLLE A TAZZA	SPRING WASHER	50CrV4 UNI 3545
11	DADO / CONTRODADO	NUT/LOCK NUT	6S UNI 3740
10b	ATTUATORE PNEUMATICO	PNEUMATIC ACTUATOR	GAT S.E. 250 FAILURE CLOSE
10a	RIDUTTORE a SGANCIO	DECLUTCHABLE GEAR BOX	RI3
09	PREMIGUARNIZIONE	GLAND	CF9SMnPb36 UNI 4838
08	BUSSOLA	WASHER	P.T.F.E. + GRAF.
07	GUARNIZIONE	BODY GASKET	P.T.F.E. + GRAF.
06	SEDI	SEATS	R.P.T.F.E.
05	SFERA	BALL	AISI 304
04	STELO	STEM	AISI 304
03	CHIUSURA	CLOSURE	ASTM A351 CF8
02	VITE CORPO	SCREW	A2-70 UNI 3740
01	CORPO	BODY	ASTM A351 CF8

DN	150
ø"	6"
øE	152
L	243
øD	285
øD1	300
P	153
H	847
h	717
a	654
b	300
c	230
F	530
øV	600
Kg.	180





COMM. 2F11A/031

INDEX	DATE	SIGN.	NOTE	INDEX	DATE	SIGN.	NOTE

REVISION

	PREPARED	CHECKED	APPROVED
DATE	06/07/12	06/07/12	06/07/12
SIGN.			

ASSEMBLY DRAWING

ODL: 003720/2012

DESCRIPTION: BALL VALVE TYPE "ALFA 10 NF" DN 150

ANSI 150 RF + PNEUMATIC ACTUATOR + DECLUTCHABLE GEAR BOX + SOLENOID VALVE + BOX + QUICK EXHAUST

ALFA VALVOLE s.r.l.

SCALE: //

DRAWING: S18193

ALFA VALVOLE s.r.l.	**INDEX OF DOCUMENTS** INDICE dei DOCUMENTI	**Doc. n°:** MRB 003720-12 — **Rev.** 0 **Sheet** Pag. 1 of 1

Customer: Cliente:	DESMET BALLESTRA SPA		
Order n°: Ordine n°:	121261 COM.2F11A/031	**Order confirmation n° (ODL):** Conferma d' ordine n° (ODL):	003720-12

Pos. Pos.	**Documents general description** Descrizione generale documenti	**Total nr. of pages** Pagine totali
1	Valve test certificates and corresponding 3.1 raw material certificates *Certificati di collaudo delle valvole e relativi certificati 3.1 delle materie prime.*	29
2	Declaration of Conformity according 97/23/CE "PED" *Dichiarazione di conformità alla 97/23/CE "PED"*	1
3	Valves installation-operation-maintenance manuals *Manuali d' uso e manutenzione delle valvole*	19

Total pages of this book / Pagine totali del documento :	nr. 53 pages, this index included nr. 53 pagine, compreso questo indice

ALFA VALVOLE s.r.l.

Doc. nr. : **MRB003720-2012**

CLIENTE :

DESMET BALLESTRA SPA

P.O nr. 121261 COM.2F11A/031

Valve test certificates and corresponding 3.1 raw material certificates
Certificati di collaudo delle valvole e relativi certificati 3.1 delle materie prime.

ALFA VALVOLE s.r.l.
VALVOLE A SFERA - BALL VALVES
ROBINETS À BOULE - KUGELHÄHNE

UNI EN ISO 9001:2008
Nr. 50 100 6417 Rev.01

CE 0948-Modulo H
Certificato nr. PED-0948-QSH-321-10

CEC-06 / 2037-ADF178
Directive 94/9/EC – Article 8 (1) b) ii)

Cert. n. 6D-0195

20010 CASOREZZO (MI) - VIALE DEL LAVORO, 19
Cap. Soc. € 1.560.000,00 i.v. - Tel. 0290296206 r.a. - Fax 0290296292
E-mail: alfavalvole@alfavalvole.it - www.alfavalvole.it

DATA Date	26/09/2012	**CERTIFICATO DI COLLAUDO** INSPECTION CERTIFICATE UNI EN 10204 3.1.	**NR** 1203720/21/0

CLIENTE Customer	DESMET BALLESTRA SPA	**VS. ORDINE** Your order nr.	121261 Com.2F11A/031	**DATA** Date	29/05/12
DESCRIZIONE Description	VALVOLA A SFERA Ball Valves	**MATERIALE** Material	WCB	**QUANTITA'** Total Q.ty	1
TIPO Type	ALFA 10NF DN 150 UNC ANSI 150	**MATRICOLE** Identification Nr.	1209582	**DISEGNO** Drawing	
AZIONAMENTO Operator	PNEUAMTIC ACTAUTOR TYPE GAT250 SE + BOX	**SPECIFICA DI COLLAUDO** Test Specification			API 6D/ISO14313 Procedure IOC 001 Rev.6
SIGLE Item	HV62.2				

ELENCO CERTIFICATI MATERIALI
Material Certificate List

PARTICOLARE Valve Part	MATERIALE Material	QUANTITA NR. Total Q.ty Nr.	LOTTO MATERIA PRIMA Raw Material lot.Nr (RML Nr)	CERTIFICATO NR. Certificate nr.
CORPO Body	WCB	1	M2991	12124-000437-12-003
CHIUSURA End	A105	1	M2814	6047
SFERA Ball	CF8	1	M0600	2010040101-6

Alfa Valvole S.r.l. dichiara che i prodotti e i materiali dei componenti utilizzati sono conformi ai requisiti del vostro ordine,e ai disegni applicabili
Alfa valvole S.r.l. declares that the products and the material used for the Components are in conformity to order requirements and Drawing applicable

PROVE IN PRESSIONE Pressure Test	PROVA IDRAULICA CORPO Body Hydraulic Test	PROVA IDRAULICA SEDI Seats Hydraulic Test	PROVA PNEUMATICA SEDI Seats Pneunatic Test	PROVA PNEUMATICA CORPO Body Pneumatic Test
PRESSIONE Pressure	30 bar Minimum Time 300s	22 bar Minimum Time 300s	6 bar Minimum Time 300s	
FLUIDO Fluid	Acqua con inibitore di ruggine al 3%,esente da Cloro,Fosforo Water with 3% of rust inhibitor, free of Clorine, Fosfate		ARIA Air	ARIA Air

STRUMENTAZIONE Testing apparatus	TIPO Type	MANOMETRO Pressure Gauge	MATRICOLE Identification Nr.	227-97 0÷10 bar	0÷40 bar 67944 23-2010

PROVE FUNZIONALI (A RICHIESTA) Functional Test (upon request)				MISURAZIONE COPPIA DI MANOVRA (A RICHIESTA) Torque measurement (upon request)			
PRESSIONE VALVOLA Valve Pressure		PRESSIONE ATTUATORE Actuator Supply		PRESSIONE Pressure		COPPIA MISURATA Torque measurement	
ESITO PROVE Result	In accordo alla norma di riferimento According to spec. reference			ESAME VISIVO E DIMENSIONALE Visual and Dimensional Test		Esito Favorevole Positive Results	

FORNITORE
Supplier

ALFA VALVOLE s.r.l.
ASSICURAZIONE QUALITA'

ISPETTORE CLIENTE
Customer Inspector

ENTE DI COLLAUDO
Inspection Agency

I certificati di origine dei materiali sono disponibili presso Alfa Valvole Srl per la durata di 10 anni, secondo la Direttiva 97/23/CE "PED"
The certificates of origin for the material are available from AlfaValvole srl for a period of 10 years, according to the "PED" Directive 97/23/EC
Les certificats des matèriaux sont disponibles dans Alfa Valvole Srl pour 10 ans, selon la Directive 97/23/CE "PED"
Сертификаты происхождения материалов имеются в наличии и будут находится у компании Alfa Valvole srl в течении 10 лет, согласно директиве 97/23/CE "PED".
Los certificados de origen de materiales están disponibles en la firma Alfa Valvole Srl por un periodo de 10 años, según lo estipulado por la Directiva 97/23/CE " PED ".

Material Inspection Certificate according to EN10204 3.1

Cert.No.: 12124-000437/12-003

Customer:	ALFA VALVOLE S.R.L	Sheet number: 1	Total pages: 3
Manufacturer:	SUZHOU SIP STARD VALVE CO.LTD.	P.O. Number:	000437/12
NO.2# Changsheng Road,Shengpu IND.Zone,Suzhou IND.Park		Invoice No.:	STD12124ALFA
Material Grade:	ASTM A216-WCB	Date of Issue:	June 20, 2012
Item:	BODY A10/A64/A68 UNDRILLED DN150	Total Qty.: 77	Mark: ALFA

Heat Number: JS0970 JS2588 JS2589 JS2590 JS2592 JS2593 JS2594 JS2596 JS2597 JS2598 JS2599 JS2600

Chemical Analysis

Heat No.	Qty.	CE	C%	Si%	Mn%	P%	S%	Cu%	Ni%	Cr%	Mo%	V%	Nb%
JS0970	4	0.364	0.195	0.438	0.888	0.020	0.009	0.014	0.014	0.064	0.028	0.002	—
JS2588	5	0.362	0.204	0.399	0.850	0.017	0.010	0.020	0.016	0.050	0.017	0.003	—
JS2589	4	0.375	0.201	0.428	0.913	0.017	0.012	0.015	0.016	0.069	0.030	0.002	—
JS2590	2	0.379	0.204	0.413	0.947	0.021	0.009	0.013	0.013	0.050	0.023	0.002	—
JS2592	2	0.374	0.206	0.444	0.862	0.019	0.013	0.020	0.023	0.082	0.023	0.004	—
JS2593	9	0.400	0.217	0.427	0.987	0.023	0.012	0.017	0.015	0.054	0.026	0.002	—
JS2594	1	0.373	0.208	0.380	0.851	0.020	0.015	0.019	0.019	0.068	0.031	0.002	—
JS2596	2	0.353	0.190	0.504	0.882	0.019	0.013	0.020	0.018	0.042	0.025	0.002	—
JS2597	1	0.406	0.224	0.425	0.929	0.027	0.020	0.030	0.038	0.082	0.030	0.003	—
JS2598	2	0.360	0.200	0.408	0.867	0.020	0.014	0.017	0.018	0.041	0.024	0.002	—
JS2599	4	0.374	0.211	0.398	0.810	0.015	0.010	0.027	0.021	0.098	0.024	0.003	—
JS2600	1	0.414	0.226	0.464	0.959	0.027	0.020	0.038	0.050	0.074	0.032	0.005	—

Mechanical Property: Tensile Test as per ASTM A370 Impact test as per ASTM A370

Heat No.	Yield (Mpa)	Tensile (Mpa)	Reduction of Area (%)	Elongation %	Hardness Brinnell	Impact Value at 20 ℃ (J)		
JS0970	320	515	52	29	147	—	—	—
JS2588	340	540	46	25	159	—	—	—
JS2589	335	545	45	25	160	—	—	—
JS2590	315	510	47	26	152	—	—	—
JS2592	300	505	50	29	150	—	—	—
JS2593	310	505	49	27	151	—	—	—
JS2594	320	525	47	28	155	—	—	—
JS2596	330	540	49	26	159	—	—	—
JS2597	305	500	50	30	150	—	—	—
JS2598	305	515	48	29	156	—	—	—
JS2599	320	520	49	28	152	—	—	—
JS2600	300	510	48	27	152	—	—	—

Dimensional Inspection	Visual Inspection	Hydraulic Inspection
OK	OK	OK

Technical Requirement

- Normalized to 930℃, 2 hours minimum, cooling in air
- Casting produced as per MSS-SP-55
- Melting Process: Induction Furnace
- Remarks: By lost-wax investment Casting
- Casting produced as per ASME B16.34
- Casting produced as per AD-Merkblatt W0 / TRD100
- Works Inspector's stamp should be marked on non-machined surface of every piece of casting
- NACE MR 01-75 / ISO 15156

ASSICURAZIONE QUALITA' RML N.

ALFA® VALVOLE S.r.l. M2991

COPIA CONFORME ALL'ORIGINALE
COPY COMPLYING WITH THE ORIGINAL

Stamp of QA Manager

Stamp of QA Dept.

Material Inspection Certificate according to EN10204 3.1

Cert.No.: 12124-000437/12-003

Customer: ALFA VALVOLE S.R.L		Sheet number: 2	Total pages: 3
Manufacturer: SUZHOU SIP STARD VALVE CO.LTD.		P.O. Number: 000437/12	
NO.2# Changsheng Road,Shengpu IND.Zone,Suzhou IND.Park		Invoice No.: STD12124ALFA	
Material Grade: ASTM A216-WCB		Date of Issue: June 20, 2012	
Item: BODY A10/A64/A68 UNDRILLED DN150		Total Qty.: 77	Mark: ALFA

Heat Number: JS2602 JS2603 JS2604 JS2605 JS2607 JS2608 JS2609 JS2611 JS2612 JS2613 JS2614 JS2615

Chemical Analysis

Heat No.	Qty.	CE	C%	Si%	Mn%	P%	S%	Cu%	Ni%	Cr%	Mo%	V%	Nb%
JS2602	2	0.383	0.223	0.418	0.851	0.020	0.013	0.014	0.020	0.051	0.025	0.001	—
JS2603	1	0.379	0.214	0.400	0.834	0.021	0.016	0.039	0.043	0.071	0.030	0.003	—
JS2604	10	0.387	0.224	0.438	0.882	0.017	0.014	0.032	0.017	0.043	0.020	0.002	—
JS2605	2	0.396	0.213	0.441	0.989	0.023	0.014	0.022	0.023	0.044	0.029	0.002	—
JS2607	3	0.396	0.213	0.441	0.989	0.023	0.014	0.022	0.023	0.044	0.029	0.002	—
JS2608	3	0.363	0.192	0.416	0.923	0.017	0.012	0.029	0.021	0.042	0.024	0.002	—
JS2609	1	0.381	0.218	0.410	0.893	0.017	0.011	0.018	0.015	0.033	0.023	0.002	—
JS2611	1	0.372	0.212	0.413	0.864	0.018	0.012	0.023	0.022	0.039	0.025	0.002	—
JS2612	1	0.379	0.209	0.403	0.911	0.017	0.014	0.025	0.034	0.043	0.028	0.002	—
JS2613	3	0.354	0.199	0.385	0.846	0.016	0.009	0.022	0.017	0.035	0.021	0.002	—
JS2614	3	0.389	0.215	0.386	0.843	0.018	0.015	0.039	0.052	0.086	0.045	0.005	—
JS2615	2	0.375	0.208	0.392	0.890	0.017	0.011	0.032	0.033	0.043	0.028	0.002	—

Mechanical Property: Tensile Test as per ASTM A370 Impact test as per ASTM A370

Heat No.	Yield (Mpa)	Tensile (Mpa)	Reduction of Area (%)	Elongation %	Hardness Brinnell	Impact Value at 20 ℃ (J)		
JS2602	325	520	49	28	156	—	—	—
JS2603	305	500	48	30	153	—	—	—
JS2604	310	515	49	30	150	—	—	—
JS2605	310	495	49	30	151	—	—	—
JS2607	305	500	49	30	150	—	—	—
JS2608	300	490	50	31	149	—	—	—
JS2609	320	535	46	27	157	—	—	—
JS2611	310	510	46	27	153	—	—	—
JS2612	315	520	49	28	154	—	—	—
JS2613	310	490	47	30	151	—	—	—
JS2614	325	530	46	28	156	—	—	—
JS2615	300	515	50	31	151	—	—	—

Dimensional Inspection	Visual Inspection	Hydraulic Inspection
OK	OK	OK

Technical Requirement

- Normalized to 930℃, 2 hours minimum, cooling in air
- Casting produced as per MSS-SP-55
- Melting Process: Induction Furnace
- Remarks: By lost-wax investment Casting
- Casting produced as per ASME B16.34
- Casting produced as per AD-Merkblatt-W0 / TRD100
- Works Inspector's stamp should be marked on non-machined surface of every piece of casting
- NACE MR 01-75 / ISO 15156

ASSICURAZIONE QUALITA' RML Nr

ALFA VALVOLE s.r.l. M2991

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COPY COMPLYING WITH THE ORIGINAL

Stamp of QA Manager

Stamp of QA Dept.

Material Inspection Certificate according to EN10204 3.1

Cert.No.: 12124-000437/12-003

Customer: ALFA VALVOLE S.R.L		Sheet number: 3	Total pages: 3
Manufacturer: SUZHOU SIP STARD VALVE CO.LTD.		P.O. Number: 000437/12	
NO.2# Changsheng Road,Shengpu IND.Zone,Suzhou IND.Park		Invoice No.: STD12124ALFA	
Material Grade: ASTM A216-WCB		Date of Issue: June 20, 2012	
Item: BODY A10/A64/A68 UNDRILLED DN150		Total Qty.: 77	Mark: ALFA
Heat Number: JS2616 JS2617 JS2636 JS2687 JS2690			

Chemical Analysis

Heat No.	Qty.	CE	C%	Si%	Mn%	P%	S%	Cu%	Ni%	Cr%	Mo%	V%	Nb%
JS2616	1	0.380	0.217	0.425	0.871	0.019	0.014	0.020	0.021	0.050	0.023	0.001	—
JS2617	1	0.367	0.205	0.354	0.875	0.021	0.013	0.018	0.018	0.038	0.029	0.001	—
JS2636	1	0.371	0.188	0.457	0.917	0.016	0.012	0.022	0.017	0.100	0.034	0.002	—
JS2687	4	0.350	0.192	0.398	0.851	0.017	0.010	0.016	0.014	0.045	0.024	0.002	—
JS2690	1	0.387	0.222	0.395	0.851	0.020	0.014	0.031	0.021	0.072	0.022	0.003	—

Mechanical Property: Tensile Test as per ASTM A370 Impact test as per ASTM A370

Heat No.	Yield (Mpa)	Tensile (Mpa)	Reduction of Area (%)	Elongation %	Hardness Brinnell	Impact Value at 20 ℃ (J)		
JS2616	315	520	48	29	154	—	—	—
JS2617	320	535	50	27	153	—	—	—
JS2636	320	500	47	27	151	—	—	—
JS2687	325	510	47	27	155	—	—	—
JS2690	300	490	52	30	150	—	—	—

Dimensional Inspection	Visual Inspection	Hydraulic Inspection
OK	OK	OK

Technical Requirement

- Normalized to 930℃, 2 hours minimum, cooling in air
- Casting produced as per MSS-SP-55
- Melting Process: Induction Furnace
- Remarks: By lost-wax investment Casting
- Casting produced as per ASME B16.34
- Casting produced as per AD-Merkblatt-W0 / TRD100
- Works Inspector's stamp should be marked on non-machined surface of every piece of casting
- NACE MR 01-75 / ISO 15156

ASSICURAZIONE QUALITA' RML Nr. M2991

ALFA® VALVOLE s.r.l.

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COPY COMPLYING WITH THE ORIGINAL

Stamp of QA Manager

Stamp of QA Dept.

VERONA STEEL

Certificato di Collaudo / Mill Test Certificate

6047 Data / Date 10/10/10

EN 10204 3.1

AZIENDA CON SISTEMA DI GESTIONE PER LA QUALITÀ CERTIFICATO DA DNV

QUALITY SISTEM CERTIFIED DNV

Cliente / Customer	Nostra conferma n. / Our. confirmation no.	riga / position	Ordine cliente n. / Customer order no.	D.D.T. N. / Delivery note	5827
13186 - STEEL SPA VIA COLOMBO, 21 29010 - SARMATO (PC) Italy	801	1	1466/2010	Data / Date	14/06/10
	Colata n. / Heat no.	Stato di fornitura Materiale / State of supply material			
	11588	FORGIATO TONDO			

Norma Specifica /Standard	Acciaio / Steel grade	Scheda / Sheet	Dimensioni (mm) / Size (mm)	Pezzi / Pieces	Massa Teorica / Theorical mass
ASTM	ASTM A 105		320	1	Tn 10,500

Acciaio completamente calmato prodotto con fusione in E.A.F - Affinazione in L.F. - Trattamento sottovuoto - Materiale esente da radioattività / Steel fully killed produced by E.A.F - Refine in L.F. - Vacuum Degassed - Radioactivity Free

Analisi chimica % / Ladle analisys %	C	Mn	Si	P	S	Cr	Ni	Mo	Al	Cu	Nb	V	Ti	Sn	As	B	Ca	Pb	Zr	W	Co	Ceq	N ppm
Valore / Value	0,190	1,010	0,220	0,007	0,006	0,090	0,290	0,030	0,032	0,25	0,001	0,001										0,419	

CARATTERISTICHE MECCANICHE					
RM N/mm²	RE N/mm²	A %	Z %	Impact test KV -29 °C J	
502	322	30	48	48	44 32

ASSICURAZIONE QUALITA' RML Nr.

ALFA VALVOLE s.r.l. M2814

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COPY COMPLYING WITH THE ORIGINAL

Ente collaudatore / Inspector	Preparato controllo qualità / Prepared quality control	Verificato responsabile controllo qualità / Verified quality control manager

Doc No. 2-15 Annex22

Material Test Certificate According to EN 10204 3.1

DATE: 2010/04/01
P/O NO.: 000160 rev.0
CERTIFICATE NO.: 2010040101-6

PURCHASER: AF-100030
STANDARD: PrEN12266-1
PRODUCT: Ball
MATERIAL ASTM A351 CF8
INSP.RESULT:

Anson Flow Corp
7F-2,No.408, Sec.2,Nantun Rd Taichung,
Taiwan(R.O.C.)

ITEM NO.	NOMINAL PRESSURE	SIZE	Q'TY PCS	HEAT NO.	VISUAL & DIMENTIONAL INSPECTION	SHELL TEST (BAR/SEC)	BACK SEAT TEST AIR TEST (BAR/SEC)	PENETRATION /RADIOGARPHIC EXAMINATION	HEAT TREATMENT SYMBOL, TEMP. & DURATION
1	-	DN25	15,448	OD	GOOD	NA	NA	NA	SEE HEAT TREATMENMT PRPORT
2	-	DN150	288	ON	GOOD	NA	NA	NA	SEE HEAT TREATMENMT PRPORT
3	-	DN200	120	OP	GOOD	NA	NA	NA	SEE HEAT TREATMENMT PRPORT
4									
5									

ITEM NO.	MATERIAL CHARGE NO.	C %	Si %	Mn %	P %	S %	Ni %	Cr %	Mo %	TS N/mm²	Rp N/mm² In 0.2%	Rp N/mm² in 1.0%	Elo. %	Hardness (HB)	Impact Test (J)			
		≦0.08	≦2.00	≦1.50	≦0.040	≦0.040	8.0-11.0	18.0-	≦0.50	≧485	≧205	NA	≧35	>135	1	2	3	Σ/3
1	OD	0.039	0.470	1.090	0.039	0.0030	8.250	18.210	0.120	512	238	NA	39	170	–	–	–	–
2	ON	0.045	0.460	1.010	0.032	0.0020	8.270	18.690	0.140	515	234	NA	38	174	–	–	–	–
3	OP	0.046	0.405	1.150	0.031	0.0048	8.120	18.380	0.165	516	235	NA	39	174	–	–	–	–
4																		
5																		

WE HERE BY CERTIFY THAT THE PRODUCT DESCRIBED HERE IN HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATIONS CONCERNED AND ALSO WITH THE PURCHASER'S REQUIREMENTS AND THAT THE TEST RESUETS SHOWN HERE IN ARE CORRECTLY TRANSFERRED FROM ORIGINAL INSPECTION RECORDS.

HEAT TREATMENT:
CF8M/CF3M/CF8/1.4409/1.4308/1.4552/1.4581: Solution annealed to 1050-1100°C, 1.4408: Solution annealed to 1080-1150°C, 2 hours minimum and quenched in water.
WCC: Normalized to 930°C, 1.0619: Normalized to 900-980°C, 2 hours minimum. Cooling in air. Stress relief to 650°C, 2 hours minimum. Cooling in air.

Lawrence
Q.A REPPESENTATIVE

ASSICURAZIONE QUALITA' RML Nr.
MALTA VALVOLE s.r.l. M0600
COPIA CONFORME ALL'ORIGINALE
COPY COMPLYING WITH THE ORIGINAL

Anson Flow Corp.
7F-2, No. 408, Sec.2,
Nantun Rd., Taichung, Taiw.
TEL:886-4-2472-099
FAX:886-4-2473-4245

ALFA VALVOLE s.r.l.
VALVOLE A SFERA - BALL VALVES
ROBINETS À BOULE - KUGELHÄHNE

UNI EN ISO 9001:2008
Nr. 50 100 6417 Rev.01

CE 0948-Modulo H
Certificato nr. PED-0948-QSH-321-10

CEC-06 / 2037-ADF178
Directive 94/9/EC – Article 8 (1) b) ii)

Cert. n. 6D-0195

20010 CASOREZZO (MI) - VIALE DEL LAVORO, 19
Cap. Soc. € 1.560.000,00 i.v. - Tel. 0290296206 r.a. - Fax 0290296292
E-mail: alfavalvole@alfavalvole.it - www.alfavalvole.it

CERTIFICATO DI COLLAUDO

DATA Date: 26/09/2012

NR 1203720/41/0

INSPECTION CERTIFICATE

UNI EN 10204 3.1.

CLIENTE Customer	DESMET BALLESTRA SPA	**VS. ORDINE** Your order nr.	121261 Com.2F11A/031	**DATA** Date	29/05/12
DESCRIZIONE Description	VALVOLA A SFERA Ball Valves	**MATERIALE** Material	A105	**QUANTITA'** Total Q.ty'	2
TIPO Type	ALFA 10HP DN 80 UNC ANSI 600	**MATRICOLE** Identification Nr.	1209583	**DISEGNO** Drawing	
AZIONAMENTO Operator	BOX Mod.WDC0217201RR/BT	**SPECIFICA DI COLLAUDO** Test Specification			API 6D/ISO14313 Procedure IOC 001 Rev.6
SIGLE Item	HV63.3A, HV63.3B				

ELENCO CERTIFICATI MATERIALI
Material Certificate List

PARTICOLARE Valve Part	MATERIALE Material	QUANTITA NR. Total Q.ty Nr.	LOTTO MATERIA PRIMA Raw Material lot.Nr (RML Nr)	CERTIFICATO NR. Certificate nr.
CORPO Body	A105	2	H7F48	6998
CHIUSURA End	A105	2	M1039	06-888782
SFERA Ball	CF8	2	M1749	424

Alfa Valvole S.r.l. dichiara che i prodotti e i materiali dei componenti utilizzati sono conformi ai requisiti del vostro ordine,e ai disegni applicabili
Alfa valvole S.r.l. declares that the products and the material used for the Components are in conformity to order requirements and Drawing applicable

PROVE IN PRESSIONE Pressure Test	PROVA IDRAULICA CORPO Body Hydraulic Test	PROVA IDRAULICA SEDI Seats Hydraulic Test	PROVA PNEUMATICA SEDI Seats Pneunatic Test	PROVA PNEUMATICA CORPO Body Pneunatic Test
PRESSIONE Pressure	153 bar Minimum Time 120s	112 bar Minimum Time 120s	6 bar Minimum Time 120s	
FLUIDO Fluid	Acqua con inibitore di ruggine al 3%,esente da Cloro,Fosforo Water with 3% of rust inhibitor, free of Clorine, Fosfate		ARIA Air	ARIA Air

STRUMENTAZIONE Testing apparatus	TIPO Type	MANOMETRO Pressure Gauge	MATRICOLE Identification Nr.	3002 0÷10 bar	0÷250 bar M57385

PROVE FUNZIONALI (A RICHIESTA) Functional Test (upon request)				MISURAZIONE COPPIA DI MANOVRA (A RICHIESTA) Torque measurement (upon request)			
PRESSIONE VALVOLA Valve Pressure		PRESSIONE ATTUATORE Actuator Supply		PRESSIONE Pressure		COPPIA MISURATA Torque measurement	
ESITO PROVE Result	In accordo alla norma di riferimento According to spec. reference			ESAME VISIVO E DIMENSIONALE Visual and Dimensional Test		Esito Favorevole Positive Results	

FORNITORE Supplier

ALFA VALVOLE s.r.l.
ASSICURAZIONE QUALITA'

ISPETTORE CLIENTE Customer Inspector

ENTE DI COLLAUDO Inspection Agency

I certificati di origine dei materiali sono disponibili presso Alfa Valvole Srl per la durata di 10 anni, secondo la Direttiva 97/23/CE "PED"
The certificates of origin for the material are available from AlfaValvole srl for a period of 10 years, according to the "PED" Directive 97/23/EC
Les certificats des matèriaux sont disponibles dans Alfa Valvole Srl pour 10 ans, selon la Directive 97/23/CE "PED"
Сертификаты происхождения материалов имеются в наличии и будут находится у компании Alfa Valvole srl в течении 10 лет, согласно директиве 97/23/CE "PED".
Los certificados de origen de materiales están disponibles en la firma Alfa Valvole Srl por un período de 10 años, según lo estipulado por la Directiva 97/23/CE " PED ".

OVAKO

QUALITY CERTIFICATE (EN 10204-3.1)

N° 6998 Date 07.06.2006

Customer	
Purch. Order No	2006-669841
Reference Number	

Ovako Steel AB SE-813 82 Hofors Sweden
Fax 00 46 8 622 13 28
Phone 00 46 290 25 000

Mfg. Contract No 801880/2
Order N° 2006-669841

Production process:	Description of Goods:	Standard and specification:	Delivery condition:
Electric Arc Furnace, Fine Grain. Fully Killed, Aluminum and Calcium-Silicon Treated, Bottom Ingot Cast, Hot Rolled, Annealed, Carbon Steel, Rough Turned, Round Bars, Machine Straightened, Ultrasonically Tested for Sound Internal Centers.	Round bars		HOT ROLLED

RW-CAR N°	Bundle N°	Heat N°	Steel Grade	Dimensions Diameter(mm)	Dimensions Length(-)	No. of bundles (pcs)	No. of bars per bundle (pcs)	Weight(MT) Gross	Weight(MT) Net
625,638,614	459,454,462	P710503	ASTMA105	210		14	12	4.28	4.30

Chemical Composition, %

C	Mn	Si	S	P	Cr	Ni	Cu	Mo	V	NB	Al			
0.19	1.05	0.21	0.025	0.020	0.02	0.02	0.03	0	0	0	0.038			

Tensile and Impact Test on Heat Treated Samples.*

Test Temperature (°C)	Yield Point (N/mm²)	Tensile Strength (N/mm²)	Elongation, A (%)	Reduction of Area, Z (%)	Impact Strength	HARDNESS HB	D.I.
	293	510	26	44		152	

End-Quench Test for Hardenability

Non-metallic inclusions (acc.t'o ASTM E45-97/Method A)

A		B		C		D		Grain Size	Macrostructure Index	
T	H	T	H	T	H	T	H		R	S

Remarks Heat Treatment of samples: Heating to 860°C, Cooling to room temperature in air.

Reduction Ratio: 6.58:1

Color marking:

Free from mercury. Free from any Radioactive Contamination
No weld or repair statement

Made in Sweden

Signature:

Inspector's Stamp
INSPECTORATE
RI. Co. S. N°34

ASSICURAZIONE QUALITA' ~~HEAT~~ RHL Nr.
MANEA S.R.L. HF68

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COPY COMPLYING WITH THE ORIGINAL

OVAKO

QUALITY CERTIFICATE (EN 10204-3.1)

N° 06/888782 Date 20.06.2007

Customer	
Purch. Order No Reference Number	28326

Ovako Steel AB SE-813 82 Hofors Sweden
Fax 00 46 8 622 13 28
Phone 00 46 290 25 000

Mfg. Contract No 801880/2
Order N° 2006-659225

Production process:
Electric Arc Furnace, Fine Grain. Fully Killed, Aluminum and Calcium-Silicon Treated, Bottom Ingot Cast, Hot Rolled, Annealed, Carbon Steel, Rough Turned, Round Bars, Machine Straightened, Ultrasonically Tested for Sound Internal Centers.

Description of Goods: Round bars

Standard and specification:

Delivery condition: **HOT ROLLED**

RW-CAR N°	Bundle N°	Heat N°	Steel Grade	Dimensions Diameter(mm)	Dimensions Length(-)	No. of bundles (pcs)	No. of bars per bundle (pcs)	Weight(MT) Gross	Weight(MT) Net
625,638,614	459,454,462	920123	ASTMA105	150		14	12	4.28	4.30

Chemical Composition, %

C	Mn	Si	S	P	Cr	Ni	Cu	Mo	V	NB	Al			
0.16	1.05	0.21	0.022	0.021	0	0	0	0	0	0	0.026			

Tensile and Impact Test on Heat Treated Samples.*

Test Temperature (°C)	Yield Point (N/mm²)	Tensile Strength (N/mm²)	Elongation, A (%)	Reduction of Area, Z (%)	Impact Strength	HARDNESS HB	D.I.
	280	485	26	53		144	

End-Quench Test for Hardenability

Non-metallic inclusions (acc.t'o ASTM E45-97/Method A)

A		B		C		D		Grain Size	Macrostructure Index	
T	H	T	H	T	H	T	H		R	S

Remarks Heat Treatment of samples: Heating to 860°C, Cooling to room temperature in air.

Reduction Ratio: 6.58:1

Color marking:

Free from mercury. Free from any Radioactive Contamination
No weld or repair statement

Made in Sweden

Signature:

Inspector's Stamp

RI. Co. S No34

HAITIMA CORPORATION

MATERIAL TEST CERTIFICATE

ACC. TO EN 10204 3.1

8F, No. 201, Tiding Blvd. Sec. 2,
Neihu Area Taipei 114 Taiwan

Invoice No.: EX 0424/11

Contract No.: P.O. 001771 REC.

Messres. ALFA VALVOLE S.R.L.

DATE: May. 30, 2011

Type: ASTM A351-CF8

Chemical Composition %

ELEMENT / SPEC / HEAT CODE	C	Si	Mn	P	S	Ni	Cr	Mo	Cu	N
SPEC	0.08以下 MAX	2.0以下 MAX	1.5以下 MAX	0.04以下 MAX	0.04以下 MAX	8.0~11.0	18.0~21.0	0.5以下 MAX		
0J	0.052	0.99	1.01	0.026	0.01	8.15	18.14	0.257		

規 格 尺 寸

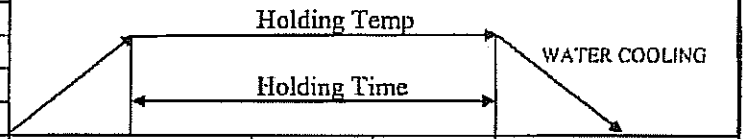
規 格： DN80

數 量： 2268 pcs

Mechanical Test (ASTM A370)

SPEC / HEAT CODE	GAUGE LENGTH	DIA	TENSILE STRENGTH	YIELD STRENGTH 0.2% OFFSET	ELONGATION	REDUCTION OF AREA	HARDNESS (HB)
	50mm	12.5mm	Mpa	Mpa	%	%	MAX
SPEC			≧485	≧205	≧35	-	183
0J	50	12.5	500.5	214.5	38.5	-	164

Heat Treatment:



Treatment	holding temp	Holding	Remarks
Solution Annealed	1080-1100 °C	1hr/in	

ASSICURAZIONE QUALITA' RML Nr. M1749

ALFA VALVOLE s.r.l.

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COPY COMPLYING WITH THE ORIGINAL

QA MANAGER : Hanson Chen

ALFA VALVOLE s.r.l.
VALVOLE A SFERA - BALL VALVES
ROBINETS À BOULE - KUGELHÄHNE

UNI EN ISO 9001:2008
Nr. 50 100 6417 Rev.01

CE 0948-Modulo H
Certificato nr. PED-0948-QSH-321-10

CEC-06 / 2037-ADF178
Directive 94/9/EC – Article 8 (1) b) ii)

Cert. n. 6D-0195

20010 CASOREZZO (MI) - VIALE DEL LAVORO, 19
Cap. Soc. € 1.560.000,00 i.v. - Tel. 0290296206 r.a. - Fax 0290296292
E-mail: alfavalvole@alfavalvole.it - www.alfavalvole.it

DATA Date 26/09/2012

CERTIFICATO DI COLLAUDO

INSPECTION CERTIFICATE
UNI EN 10204 3.1.

NR 1203720/51/0

CLIENTE Customer	DESMET BALLESTRA SPA	**VS. ORDINE** Your order nr.	121261 Com.2F11A/031	**DATA** Date	29/05/12
DESCRIZIONE Description	VALVOLA A SFERA Ball Valves	**MATERIALE** Material	CF8M	**QUANTITA'** Total Q.ty'	1
TIPO Type	ALFA 10NF DN 80 UNC ANSI 150	**MATRICOLE** Identification Nr.	1209584	**DISEGNO** Drawing	
AZIONAMENTO Operator	PNEUAMTIC ACTAUTOR TYPE GAT150 SE + BOX	**SPECIFICA DI COLLAUDO** Test Specification			API 6D/ISO14313 Procedure IOC 001 Rev.6
SIGLE Item	KV62.8				

ELENCO CERTIFICATI MATERIALI
Material Certificate List

PARTICOLARE Valve Part	MATERIALE Material	QUANTITA NR. Total Q.ty Nr.	LOTTO MATERIA PRIMA Raw Material lot.Nr (RML Nr)	CERTIFICATO NR. Certificate nr.
CORPO Body	CF8M	1	M0194	20100129208
CHIUSURA End	CF8M	1	M0194	20100129208
SFERA Ball	CF8M	1	M0581	10040801

Alfa Valvole S.r.l. dichiara che i prodotti e i materiali dei componenti utilizzati sono conformi ai requisiti del vostro ordine,e ai disegni applicabili
Alfa valvole S.r.l. declares that the products and the material used for the Components are in conformity to order requirements and Drawing applicable

PROVE IN PRESSIONE Pressure Test	PROVA IDRAULICA CORPO Body Hydraulic Test	PROVA IDRAULICA SEDI Seats Hydraulic Test	PROVA PNEUMATICA SEDI Seats Pneunatic Test	PROVA PNEUMATICA CORPO Body Pneunatic Test
PRESSIONE Pressure	30 bar Minimum Time 120s	22 bar Minimum Time 120s	6 bar Minimum Time 120s	
FLUIDO Fluid	Acqua con inibitore di ruggine al 3%,esente da Cloro,Fosforo Water with 3% of rust inhibitor, free of Clorine, Fosfate		ARIA Air	ARIA Air

STRUMENTAZIONE Testing apparatus	TIPO Type	MANOMETRO Pressure Gauge	MATRICOLE Identification Nr.	227-97 0÷10 bar	0÷40 bar 67944 23-2010

PROVE FUNZIONALI (A RICHIESTA) Functional Test (upon request)				MISURAZIONE COPPIA DI MANOVRA (A RICHIESTA) Torque measurement (upon request)			
PRESSIONE VALVOLA Valve Pressure		PRESSIONE ATTUATORE Actuator Supply		PRESSIONE Pressure		COPPIA MISURATA Torque measurement	
ESITO PROVE Result	In accordo alla norma di riferimento According to spec. reference			ESAME VISIVO E DIMENSIONALE Visual and Dimensional Test		Esito Favorevole Positive Results	

FORNITORE Supplier — ALFA VALVOLE s.r.l. ASSICURAZIONE QUALITA'

ISPETTORE CLIENTE Customer Inspector

ENTE DI COLLAUDO Inspection Agency

I certificati di origine dei materiali sono disponibili presso Alfa Valvole Srl per la durata di 10 anni, secondo la Direttiva 97/23/CE "PED"
The certificates of origin for the material are available from AlfaValvole srl for a period of 10 years, according to the "PED" Directive 97/23/EC
Les certificats des matèriaux sont disponibles dans Alfa Valvole Srl pour 10 ans, selon la Directive 97/23/CE "PED"
Сертификаты происхождения материалов имеются в наличии и будут находится у компании Alfa Valvole srl в течении 10 лет, согласно директиве 97/23/CE "PED".
Los certificados de origen de materiales están disponibles en la firma Alfa Valvole Srl por un periodo de 10 años, según lo estipulado por la Directiva 97/23/CE " PED ".

ZHEJIANG SHIDAI CASTING CO.,LTD

INSPECTION CERTIFICATE ACCORDING TO EN 10204 3.1

CUSTOMER: ALFA VALVOLE SRL **ORDER N.:** 901833 **REPORT N° :** 20100129208 **DATE** 2010-1-29

HEAT NR.	Q'TY	DESCRIPTION- SIZE	DRAWING NR.	MARKING
6575	2	A10N-DN80 Undrilled	3493 Rev.4 3491 Rev.3	GENOVA, ITALY MADE IN CHINA C/NO. 15 LOT NUMBERS:20100131
2190	4	A10N-DN80 Undrilled	3493 Rev.4 3491 Rev.3	
6585	11	A10N-DN80 Undrilled	3493 Rev.4 3491 Rev.3	
2388	28	A10N-DN80 Undrilled	3493 Rev.4 3491 Rev.3	
6592	16	A10N-DN80 Undrilled	3493 Rev.4 3491 Rev.3	
6587	14	A10N-DN80 Undrilled	3493 Rev.4 3491 Rev.3	
6597	16	A10N-DN80 Undrilled	3493 Rev.4 3491 Rev.3	
2191	3	A10N-DN80 Undrilled	3493 Rev.4 3491 Rev.3	
2378	6	A10N-DN80 Undrilled	3493 Rev.4 3491 Rev.3	

CHEMICAL ANALYSIS

ALLOY			C	Si	Mn	P	S	Cr	Ni	Mo				
A351 CF8M	REQUIRED	MIN						18.00	9.00	2.00				
		MAX	0.080	1.50	1.50	0.040	0.040	21.00	12.00	3.00				
HEAT NR.														
6575			0.054	0.59	1.15	0.031	0.006	18.10	9.26	2.10				
2190			0.064	0.70	1.24	0.032	0.008	18.07	9.10	2.14				
6585			0.053	0.59	1.07	0.030	0.007	18.24	9.20	2.06				
2388			0.057	0.66	1.24	0.030	0.007	18.50	9.25	2.15				
6592			0.053	0.51	1.00	0.033	0.007	18.27	9.23	2.10				
6587			0.054	0.54	0.94	0.032	0.005	18.20	9.20	2.05				
6597			0.055	0.60	1.09	0.031	0.006	18.30	9.20	2.12				
2191			0.061	0.53	1.26	0.031	0.010	18.12	9.11	2.07				
2378			0.055	0.61	1.15	0.030	0.006	18.40	9.20	2.15				

MECHANICAL PROPERTIES

	YELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION	HARDNESS	IMPACT TEST			
REQUIRED	Rp 0.2% (Mpa)	Rmn(Mpa)	A %	Z %	HB	KV JOULE			
	min 205	> 485	min 30	min	>135 < 187	1	2	3	
HEAT NR.									
6575	222	517	43		150				
2190	225	527	40		156				
6585	229	528	38		157				
2388	224	528	42		156				
6592	225	527	43		156				
6587	226	524	40		154				
6597	227	531	40		157				
2191	221	524	42		153				
2378	237	529	36		155				

HEAT TREATEMENT	SOLUTION TREATEMENT 1080 °C WATER
VISUAL EXAMINATION	ACCORDING MSS SP-55
TECHNICAL REQUIREMENT	EUROPEAN DIRECTIVE 97/23/EC PED ALFA VALVOLE STAC 15 Rev. 2
	NACE MR01-75 / ISO 15156

SIGNATURE

ASSICURAZIONE QUALITA' RMI N°.

ALFA VALVOLE srl M0194

COPIA CONFORME ALL'ORIGINALE
COPY COMPLYING WITH THE ORIGINAL

MAX PRECISE INDUSTRIAL CO. LTD.

16-1, LANE 314, CHANG-LU ROAD, SEC. 6
FU-SHIN HSIANG 506, CHANGHUA, TAIWAN
Tel: 886-4-778-4546 / Fax: 886-777-9273

INSPECTION CERTIFICATE ACCORDING TO S/DIN 50049 /EN 10204 3.1.B

■ ASTM ☐ DIN ☐..... DATE: APR 08, 2010

Customer: ALFA VALVOLE S.R.L		Test No. : 10040801
Order No.: 162/2010, 159/2010 REV.1	Material: CF8M	
Other specifications:		
Tensile test: ASTM-A370		
Heat Treatment – Solution Treatment 1080℃ Water		

Heat No.	Quantity	Item
9902125	450	DN150 BALL DRAWING NO.030 POS.12 REV.5
A100311-22	103	DN100 BALL DRAWING NO.180 POS.9 REV.0
1004016	1392	DN80 BALL DRAWING NO.030 POS.9
9902138	508	DN100N BALL DRAWING NO.030 POS.14

Mechanical properties

Heat No.	Yield point N/mm2	Tensile Strength N/ mm2	Elongation %	Brinell Hardness (HB)		
9902125	323	531	46	152		
A100311-22	273	524	46	159		
1004016	220	542	40	162		
9902138	315	528	46	150		

Chemical analysis%

Heat No	C	Si	Mn	P	S	Cr	Ni	Mo	
9902125	0.07	0.58	0.8	0.033	0.021	18.13	9.21	2.16	
A100311-22	0.06	1.04	0.97	0.025	0.005	18.73	9.41	2.08	
1004016	0.04	0.47	0.83	0.024	0.007	18.34	9.36	2.14	
9902138	0.06	0.66	0.78	0.034	0.018	18.33	9.16	2.11	

QUALITY CONTROL

Signature: Zora

ASSICURAZIONE QUALITA' RML Nr.
ALFA VALVOLE srl M0581
COPIA CONFORME ALL'ORIGINALE
COPY COMPLYING WITH THE ORIGINAL

ALFA® VALVOLE s.r.l.
VALVOLE A SFERA - BALL VALVES
ROBINETS À BOULE - KUGELHÄHNE

UNI EN ISO 9001:2008
Nr. 50 100 6417 Rev.01

CE 0948-Modulo H
Certificato nr. PED-0948-QSH-321-10

CEC-06 / 2037-ADF178
Directive 94/9/EC – Article 8 (1) b) ii)

Cert. n. 6D-0195

20010 CASOREZZO (MI) - VIALE DEL LAVORO, 19
Cap. Soc. € 1.560.000,00 i.v. - Tel. 0290296206 r.a. - Fax 0290296252
E-mail: alfavalvole@alfavalvole.it - www.alfavalvole.it

DATA Date	26/09/2012	**CERTIFICATO DI COLLAUDO** INSPECTION CERTIFICATE UNI EN 10204 3.1.	**NR** 1203720/61/0

CLIENTE Customer	DESMET BALLESTRA SPA	**VS. ORDINE** Your order nr.	121261 Com.2F11A/031	**DATA** Date	29/05/12
DESCRIZIONE Description	VALVOLA A SFERA Ball Valves	**MATERIALE** Material	CF8M	**QUANTITA'** Total Q.ty	3
TIPO Type	ALFA 10NF DN 50 UNC ANSI 150	**MATRICOLE** Identification Nr.	1209585	**DISEGNO** Drawing	
AZIONAMENTO Operator	PNEUAMTIC ACTAUTOR TYPE GAT115 SE + BOX	**SPECIFICA DI COLLAUDO** Test Specification			API 6D/ISO14313 Procedure IOC 001 Rev.6
SIGLE Item	KV62.9, KV62.11, KV62.12				

ELENCO CERTIFICATI MATERIALI
Material Certificate List

PARTICOLARE Valve Part	MATERIALE Material	QUANTITA NR. Total Q.ty Nr.	LOTTO MATERIA PRIMA Raw Material lot.Nr (RML Nr)	CERTIFICATO NR. Certificate nr.
CORPO Body	CF8M	3	M1573	20110426056
CHIUSURA End	CF8M	3	M1573	20110426056
SFERA Ball	CF8M	3	M1993	BT-001101-2ND

Alfa Valvole S.r.l. dichiara che i prodotti e i materiali dei componenti utilizzati sono conformi ai requisiti del vostro ordine,e ai disegni applicabili
Alfa valvole S.r.l. declares that the products and the material used for the Components are in conformity to order requirements and Drawing applicable

PROVE IN PRESSIONE Pressure Test	PROVA IDRAULICA CORPO Body Hydraulic Test	PROVA IDRAULICA SEDI Seats Hydraulic Test	PROVA PNEUMATICA SEDI Seats Pneunatic Test	PROVA PNEUMATICA CORPO Body Pneunatic Test
PRESSIONE Pressure	30 bar Minimum Time 120s	22 bar Minimum Time 120s	6 bar Minimum Time 120s	
FLUIDO Fluid	Acqua con inibitore di ruggine al 3%,esente da Cloro,Fosforo Water with 3% of rust inhibitor, free of Clorine, Fosfate		ARIA Air	ARIA Air

STRUMENTAZIONE Testing apparatus	TIPO Type	MANOMETRO Pressure Gauge	MATRICOLE Identification Nr.		
				227-97 0÷10 bar	0÷40 bar 67944 23-2010

PROVE FUNZIONALI (A RICHIESTA) Functional Test (upon request)				MISURAZIONE COPPIA DI MANOVRA (A RICHIESTA) Torque measurement (upon request)			
PRESSIONE VALVOLA Valve Pressure		PRESSIONE ATTUATORE Actuator Supply		PRESSIONE Pressure		COPPIA MISURATA Torque measurement	
ESITO PROVE Result	In accordo alla norma di riferimento According to spec. reference			ESAME VISIVO E DIMENSIONALE Visual and Dimensional Test		Esito Favorevole Positive Results	

FORNITORE Supplier	ISPETTORE CLIENTE Customer Inspector	ENTE DI COLLAUDO Inspection Agency
ALFA® VALVOLE s.r.l. ASSICURAZIONE QUALITA'		

I certificati di origine dei materiali sono disponibili presso Alfa Valvole Srl per la durata di 10 anni, secondo la Direttiva 97/23/CE "PED"
The certificates of origin for the material are available from AlfaValvole srl for a period of 10 years, according to the "PED" Directive 97/23/EC
Les certificats des matériaux sont disponibles dans Alfa Valvole Srl pour 10 ans, selon la Directive 97/23/CE "PED"
Сертификаты происхождения материалов имеются в наличии и будут находится у компании Alfa Valvole srl в течении 10 лет, согласно директиве 97/23/CE "PED".
Los certificados de origen de materiales están disponibles en la firma Alfa Valvole Srl por un periodo de 10 años, según lo estipulado por la Directiva 97/23/CE " PED ".

ZHEJIANG SHIDAI CASTING CO.,LTD

INSPECTION CERTIFICATE ACCORDING TO EN 10204 3.1

CUSTOMER: ALFA VALVOLE SRL ORDER N.: 000284 REPORT N° : 20110426056 DATE 2011-4-26

HEAT NR.	Q'TY	DESCRIPTION- SIZE	DRAWING NR.	MARKING
2494	113	Alfa10N DN50 UNDRILLED	3425 Rev.3 3426 Rev.3	GENOVA, ITALY MADE IN CHINA C/NO. 6-8 LOT NUMBERS:20110425
2495	128	Alfa10N DN50 UNDRILLED	3425 Rev.3 3426 Rev.3	
2496	125	Alfa10N DN50 UNDRILLED	3425 Rev.3 3426 Rev.3	
2497	125	Alfa10N DN50 UNDRILLED	3425 Rev.3 3426 Rev.3	
2507	9	Alfa10N DN50 UNDRILLED	3425 Rev.3 3426 Rev.3	

CHEMICAL ANALYSIS

ALLOY	REQUIRED		C	Si	Mn	P	S	Cr	Ni	Mo
A351 CF8M		MIN						18.00	9.00	2.00
		MAX	0.080	1.50	1.50	0.040	0.040	21.00	12.00	3.00
HEAT NR.										
2494			0.052	0.62	1.04	0.031	0.005	18.40	9.24	2.12
2495			0.054	0.62	1.13	0.030	0.006	18.43	9.32	2.16
2496			0.054	0.62	1.06	0.032	0.006	18.40	9.30	2.14
2497			0.056	0.57	1.05	0.031	0.006	18.46	9.31	2.20
2507			0.050	0.74	1.00	0.034	0.007	18.40	9.24	2.14

MECHANICAL PROPERTIES

	YELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION	HARDNESS	IMPACT TEST
REQUIRED	Rp 0.2% (Mpa)	Rmn(Mpa)	A %	Z %	HB	KV JOULE
	min 205	> 485	min 30	min	>135 < 187	1 2 3
HEAT NR.						
2494	238	533	37		159	
2495	231	529	42		155	
2496	229	524	42		151	
2497	237	531	38		157	
2507	238	532	37		159	

HEAT TREATEMENT	SOLUTION TREATEMENT 1080 °C WATER
VISUAL EXAMINATION	ACCORDING MSS SP-55
TECHNICAL REQUIREMENT	EUROPEAN DIRECTIVE 97/23/EC PED ALFA VALVOLE STAC 15 Rev. 2
	NACE MR01-75 / ISO 15156

SIGNATURE

ASSICURAZIONE QUALITA' RML Nr.

ALFA VALVOLE s.r.l. M1573

COPIA CONFORME ALL'ORIGINALE
COPY COMPLYING WITH THE ORIGINAL

BOLA-TEK MFG. CO., LTD.
P.O. BOX:35-78 TAICHUNG TAIWAN R.O.C.

Certificate EN 10204 - 3.1

Kiant/customer:	Certificate number:BT-001101-2ND
ALFA VALVOLE SRL	

ORDER NO: 001101	INVOICE NO:BT-0831/2011	DATE: AUG. 31, 2011

Item	Q'ty	Description	Dn	Rating	Conn.	Material body&cap
1	4225	BALL(19X10)	10	--	--	ASTM-A351-CF8M
2	4176	BALL(28.5X14)	15	--	--	ASTM-A351-CF8M
3	2972	BALL(35X19)	20	--	--	ASTM-A351-CF8M
4	2587	BALL(62X37)	40	--	--	ASTM-A351-CF8M
5	2091	BALL(78X48)	50	--	--	ASTM-A351-CF8M
6	2100	BALL(1187X5)	80	--	--	ASTM-A351-CF8M
7	54	BALL(148X94)	100	--	--	ASTM-A351-CF8M

Item	Part	Charge Nr.	Q'ty	Hydrostatic test	Mechanishe eignenschappen/mechanical properties		
					Tensile strength (Mpa)	Yieldpoint (Mpa)	Elongation (%)
					RM	Rp0.2	A
					>=485	>=205	>=30
1	BALL(19X10)	6G30	4225	--	569.00	304.00	45.00
2	BALL(28.5X14)	6G31	4176	--	541.00	349.00	45.00
3	BALL(35X19)	6G32	2972	--	514.00	211.00	42.00
4	BALL(62X37)	6G35	2587	--	517.00	213.00	44.00
5	BALL(78X48)	6G36	2091	--	543.00	221.00	39.00
6	BALL(1187X5)	6G37	2100	--	545.00	223.00	39.00
7	BALL(148X94)	6G38	54	--	502.50	216.50	38.50

CHEMISCHE ZUSAMMENSTELLUNG/CHEMICAL COMPOSITION

Charge Nr.	C %	Si %	Mn %	P %	S %	Cr %	Mo %	Ni %
	<=0.08	<=1.50	<=1.50	<=0.04	<=0.04	18.0-21.0	2.0-3.0	9.0-12.0
6G30	0.0600	0.6320	0.9340	0.0310	0.0100	18.7600	2.1300	9.1500
6G31	0.0685	0.6385	0.9059	0.0289	0.0055	18.0724	2.1126	9.0414
6G32	0.0620	0.5300	0.9850	0.0330	0.0070	18.5030	2.1850	9.1270
6G35	0.0364	0.6086	0.9679	0.0318	0.0054	18.3620	2.2251	9.1743
6G36	0.0492	0.5148	0.6702	0.0335	0.0081	18.5750	2.1540	9.3921
6G37	0.0507	0.4768	0.6342	0.0346	0.0081	18.6450	2.2113	9.1294
6G38	0.0620	0.9100	0.8700	0.0310	0.0110	18.2100	2.1000	9.1500

We hereby certify that material described above has been succesfully tested and complies with the terms of the order.

SOLUTION ANNEALED QUENCHED 1080℃ HEATING AND WATER COOL 1.5 HOURS.

BOLA-TEK MFG. CO., LTD.

BOLA-TEK MFG. CO., LTD.

FORM NO.: 4-07-014

ALFA® VALVOLE s.r.l.
VALVOLE A SFERA - BALL VALVES
ROBINETS À BOULE - KUGELHÄHNE

UNI EN ISO 9001:2008
Nr. 50 100 6417 Rev.01

CE 0948-Modulo H
Certificato nr. PED-0948-QSH-321-10

CEC-06 / 2037-ADF178
Directive 94/9/EC – Article 8 (1) b) ii)

Cert. n. 6D-0195

20010 CASOREZZO (MI) - VIALE DEL LAVORO, 19
Cap. Soc. € 1.560.000,00 i.v. - Tel. 0290296206 r.a. - Fax 0290296292
E-mail: alfavalvole@alfavalvole.it - www.alfavalvole.it

CERTIFICATO DI COLLAUDO

DATA Date: 26/09/2012

NR 1203720/71/0

INSPECTION CERTIFICATE

UNI EN 10204 3.1.

CLIENTE Customer	DESMET BALLESTRA SPA	**VS. ORDINE** Your order nr.	121261 Com.2F11A/031	**DATA** Date	29/05/12
DESCRIZIONE Description	VALVOLA A SFERA Ball Valves	**MATERIALE** Material	CF8M	**QUANTITA'** Total Q.ty'	1
TIPO Type	ALFA 10NF DN 100 UNC ANSI 150	**MATRICOLE** Identification Nr.	1209586	**DISEGNO** Drawing	
AZIONAMENTO Operator	PNEUAMTIC ACTAUTOR TYPE GAT150 SE + BOX	**SPECIFICA DI COLLAUDO** Test Specification			API 6D/ISO14313 Procedure IOC 001 Rev.6
SIGLE Item	KV62.10				

ELENCO CERTIFICATI MATERIALI
Material Certificate List

PARTICOLARE Valve Part	MATERIALE Material	QUANTITA NR. Total Q.ty Nr.	LOTTO MATERIA PRIMA Raw Material lot.Nr (RML Nr)	CERTIFICATO NR. Certificate nr.
CORPO Body	CF8M	1	M0280	20100312118
CHIUSURA End	CF8M	1	H7F74	200710M
SFERA Ball	CF8M	1	M0A54	1080-10

Alfa Valvole S.r.l. dichiara che i prodotti e i materiali dei componenti utilizzati sono conformi ai requisiti del vostro ordine,e ai disegni applicabili
Alfa valvole S.r.l. declares that the products and the material used for the Components are in conformity to order requirements and Drawing applicable

PROVE IN PRESSIONE Pressure Test	PROVA IDRAULICA CORPO Body Hydraulic Test	PROVA IDRAULICA SEDI Seats Hydraulic Test	PROVA PNEUMATICA SEDI Seats Pneunatic Test	PROVA PNEUMATICA CORPO Body Pneunatic Test
PRESSIONE Pressure	30 bar Minimum Time 120s	22 bar Minimum Time 120s	6 bar Minimum Time 120s	
FLUIDO Fluid	Acqua con inibitore di ruggine al 3%,esente da Cloro,Fosforo Water with 3% of rust inhibitor, free of Clorine, Fosfate		ARIA Air	ARIA Air

STRUMENTAZIONE Testing apparatus	TIPO Type	MANOMETRO Pressure Gauge	MATRICOLE Identification Nr.	227-97 0÷10 bar	0÷40 bar 67944 23-2010

PROVE FUNZIONALI (A RICHIESTA) Functional Test (upon request)				MISURAZIONE COPPIA DI MANOVRA (A RICHIESTA) Torque measurement (upon request)			
PRESSIONE VALVOLA Valve Pressure		PRESSIONE ATTUATORE Actuator Supply		PRESSIONE Pressure		COPPIA MISURATA Torque measurement	
ESITO PROVE Result	In accordo alla norma di riferimento According to spec. reference			ESAME VISIVO E DIMENSIONALE Visual and Dimensional Test		Esito Favorevole Positive Results	

FORNITORE Supplier

ALFA® VALVOLE s.r.l.
ASSICURAZIONE QUALITA'

ISPETTORE CLIENTE Customer Inspector

ENTE DI COLLAUDO Inspection Agency

I certificati di origine dei materiali sono disponibili presso Alfa Valvole Srl per la durata di 10 anni, secondo la Direttiva 97/23/CE "PED"
The certificates of origin for the material are available from AlfaValvole srl for a period of 10 years, according to the "PED" Directive 97/23/EC
Les certificats des matèriaux sont disponibles dans Alfa Valvole Srl pour 10 ans, selon la Directive 97/23/CE "PED"
Сертификаты происхождения материалов имеются в наличии и будут находится у компании Alfa Valvole srl в течении 10 лет, согласно директиве 97/23/CE "PED".
Los certificados de origen de materiales están disponibles en la firma Alfa Valvole Srl por un periodo de 10 años, según lo estipulado por la Directiva 97/23/CE " PED ".

ZHEJIANG SHIDAI CASTING CO.,LTD

INSPECTION CERTIFICATE ACCORDING TO EN 10204 3.1

CUSTOMER: ALFA VALVOLE SRL **ORDER N.:** 901833 **REPORT N° :** 20100312118 **DATE** 2010-3-12

HEAT NR.	Q'TY	DESCRIPTION- SIZE	DRAWING NR.	MARKING
2397	23	A12N-DN100 Undrilled	5230 Rev.2 4046 Rev.3	GENOVA, ITALY MADE IN CHINA C/NO. 19 LOT NUMBERS:20100311
2396	20	A12N-DN100 Undrilled	5230 Rev.2 4046 Rev.3	
2395	24	A12N-DN100 Undrilled	5230 Rev.2 4046 Rev.3	
2394	24	A12N-DN100 Undrilled	5230 Rev.2 4046 Rev.3	
2398	9	A12N-DN100 Undrilled	5230 Rev.2 4046 Rev.3	

CHEMICAL ANALYSIS

ALLOY	REQUIRED		C	Si	Mn	P	S	Cr	Ni	Mo				
A351 CF8M		MIN						18.00	9.00	2.00				
		MAX	0.080	1.50	1.50	0.040	0.040	21.00	12.00	3.00				
HEAT NR.														
2397			0.058	0.68	1.23	0.029	0.005	18.40	9.30	2.17				
2396			0.053	0.67	1.21	0.029	0.005	18.50	9.22	2.15				
2395			0.048	0.69	1.25	0.027	0.005	18.35	9.25	2.10				
2394			0.056	0.63	1.21	0.031	0.005	18.37	9.17	2.12				
2398			0.056	0.67	1.25	0.029	0.005	18.40	9.31	2.10				

MECHANICAL PROPERTIES

	YELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION	HARDNESS	IMPACT TEST		
REQUIRED	Rp 0.2% (Mpa)	Rmn(Mpa)	A %	Z %	HB	KV JOULE		
	min 205	> 485	min 30	min	>135 < 187	1	2	3
HEAT NR.								
2397	228	525	40		152			
2396	235	529	37		155			
2395	225	516	43		145			
2394	232	526	39		152			
2398	221	523	45		149			

HEAT TREATEMENT	SOLUTION TREATEMENT 1080 °C WATER
VISUAL EXAMINATION	ACCORDING MSS SP-55
TECHNICAL REQUIREMENT	EUROPEAN DIRECTIVE 97/23/EC PED ALFA VALVOLE STAC 15 Rev. 2
	NACE MR01-75 / ISO 15156

SIGNATURE

ASSICURAZIONE QUALITA' RML N.

ALFA VALVOLE srl M0280

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Zhejiang Shidai Casting Co.,Ltd

INSPECTION CERTIFICATE ACCORDING TO EN 10204 3.1

CUSTOMER: ALFA VALVOLE **ORDER N.:** 700003 add order **REPORT N° :** 200710M **DATE** 20071010

INVOICE: FT07A113C011

HEAT NR.	Q'TY	DESCRIPTION- SIZE	DRAWING NR.	MARKING
0088	2	ALFA 10 DN100 UNDRILLED	5230+4046	
0089	5	ALFA 10 DN100 UNDRILLED	5230+4046	
0108	45	ALFA 10 DN100 UNDRILLED	5230+4046	
0109	47	ALFA 10 DN100 UNDRILLED	5230+4046	
0110	47	ALFA 10 DN100 UNDRILLED	5230+4046	
0111	54	ALFA 10 DN100 UNDRILLED	5230+4046	
	200			

CHEMICAL ANALYSIS

ALLOY			C	Si	Mn	P	S	Cr	Ni	Mo				
A351-CF8M	REQUIRED	MIN						18.000	9.000	2.000				
		MAX	0.080	1.500	1.500	0.040	0.040	21.000	12.000	3.000				
HEAT NR.														
0088			0.056	0.610	1.140	0.027	0.006	18.100	9.050	2.070				
0089			0.060	0.520	1.120	0.029	0.007	18.100	9.120	2.100				
0108			0.053	0.710	1.230	0.030	0.008	18.000	9.100	2.050				
0109			0.063	0.560	1.210	0.027	0.006	18.120	9.060	2.100				
0110			0.059	0.540	1.260	0.028	0.006	18.150	9.100	2.070				
0111			0.064	0.570	1.130	0.027	0.009	18.100	9.110	2.000				

MECHANICAL PROPERTIES

	YELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION	HARDNESS	IMPACT TEST			
REQUIRED	Rp 0.2% (M	Rmn(Mpa)	A %	Z %	HB	KV JOULE			
	min 205	> 485	min 30	min	≥135 < 187	1	2	3	Aver
HEAT NR.									
0088	233	515	37						
0089	236	510	38						
0108	234	513	42						
0109	230	509	37						
0110	231	511	41					-	
0111	230	507	38						

HEAT TREATEMENT	SOLUTION TREATEMEN 1080 °C WATER QUENCHED
VISUAL EXAMINATION	ACCORDING MSS SP-55
TECHNICAL REQUIREMEN	EUROPEAN DIRECTIVE 97/23/EC PED ALFA VALVOLE STAC 15 Rev. 1
	NACE MR01-75 / ISO 15156

SIGNATURE

ASSICURAZIONE QUALITA' ~~HEAT~~ Nr.

COPIA CONFORME ALL' ORIGINALE
COPY COMPLYING WITH THE ORIGINAL

HAITIMA CORPORATION

8F, No. 201, Tiding Blvd. Sec. 2,
Neihu Area Taipei 114 Taiwan

MATERIAL TEST CERTIFICATE

ACC. TO EN 10204 3.1

Invoice No.: EX 1080/10

Contract No.: P.O. 001771 rev.1

Messres. ALFA VALVOLE S.R.L.

DATE: Dec. 27, 2010

Chemical Composition %

Type: ASTM A351-CF8M

ELEMENT / SPEC / HEAT CODE	C	Si	Mn	P	S	Ni	Cr	Mo	Cu	N	規格尺寸
	0.08以下 MAX	2.0以下 MAX	1.5以下 MAX	0.04以下 MAX	0.04以下 MAX	9.0~12.0	18.0~21.0	2.0~3.0			
B-14	0.032	0.45	0.96	0.031	0.004	9.27	18.46	2.17			

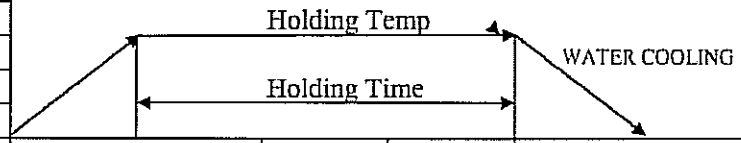
規格：DN100

數量：504 pcs

Mechanical Test (ASTM A370)

SPEC / HEAT CODE	GAUGE LENGTH	DIA	TENSILE STRENGTH	YIELD STRENGTH 0.2% OFFSET	ELONGATION	REDUCTION OF AREA	HARDNESS (HB)
	50mm	12.5mm	Mpa ≧485	Mpa ≧205	% ≧30	% -	MAX 183
B-14	50	12.5	509	234	38	-	157

Heat Treatment:



Treatment	holding temp	Holding	Remarks
Solution Annealed	1080-1100 °C	1hr/in	

ASSICURAZIONE QUALITA' RML Nr. M0A54

ALFA VALVOLE s.r.l.

COPIA CONFORME ALL'ORIGINALE
COPY COMPLYING WITH THE ORIGINAL

QA MANAGER : Kanson Chen

ALFA VALVOLE s.r.l.
VALVOLE A SFERA - BALL VALVES
ROBINETS À BOULE - KUGELHÄHNE

UNI EN ISO 9001:2008
Nr. 50 100 6417 Rev.01

CE 0948-Modulo H
Certificato nr. PED-0948-QSH-321-10

CEC-06 / 2037-ADF178
Directive 94/9/EC – Article 8 (1) b) ii)

Cert. n. 6D-0195

20010 CASOREZZO (MI) - VIALE DEL LAVORO, 19
Cap. Soc. € 1.560.000,00 i.v. - Tel. 0290296206 r.a. - Fax 0290296292
E-mail: alfavalvole@alfavalvole.it - www.alfavalvole.it

CERTIFICATO DI COLLAUDO

INSPECTION CERTIFICATE

UNI EN 10204 3.1.

DATA Date	26/09/2012			**NR**	1203720/81/0
CLIENTE Customer	DESMET BALLESTRA SPA	**VS. ORDINE** Your order nr.	121261 Com.2F11A/031	**DATA** Date	29/05/12
DESCRIZIONE Description	VALVOLA A SFERA Ball Valves	**MATERIALE** Material	CF8M	**QUANTITA'** Total Q.ty'	1
TIPO Type	ALFA 10NF DN 25 UNC ANSI 150	**MATRICOLE** Identification Nr.	1208587	**DISEGNO** Drawing	
AZIONAMENTO Operator	PNEUAMTIC ACTAUTOR TYPE GAT85 SE + BOX	**SPECIFICA DI COLLAUDO** Test Specification			API 6D/ISO14313 Procedure IOC 001 Rev.6
SIGLE Item	KV62.13				

ELENCO CERTIFICATI MATERIALI
Material Certificate List

PARTICOLARE Valve Part	MATERIALE Material	QUANTITA NR. Total Q.ty Nr.	LOTTO MATERIA PRIMA Raw Material lot.Nr (RML Nr)	CERTIFICATO NR. Certificate nr.
CORPO Body	CF8M	1	M1B12	20111020218
CHIUSURA End	CF8M	1	M1B12	20111020218

Alfa Valvole S.r.l. dichiara che i prodotti e i materiali dei componenti utilizzati sono conformi ai requisiti del vostro ordine,e ai disegni applicabili
Alfa valvole S.r.l. declares that the products and the material used for the Components are in conformity to order requirements and Drawing applicable

PROVE IN PRESSIONE Pressure Test	PROVA IDRAULICA CORPO Body Hydraulic Test	PROVA IDRAULICA SEDI Seats Hydraulic Test	PROVA PNEUMATICA SEDI Seats Pneunatic Test	PROVA PNEUMATICA CORPO Body Pneunatic Test
PRESSIONE Pressure	30 bar Minimum Time 120s	22 bar Minimum Time 120s	6 bar Minimum Time 120s	
FLUIDO Fluid	Acqua con inibitore di ruggine al 3%,esente da Cloro,Fosforo Water with 3% of rust inhibitor, free of Clorine, Fosfate		ARIA Air	ARIA Air

STRUMENTAZIONE Testing apparatus	TIPO Type	MANOMETRO Pressure Gauge	MATRICOLE Identification Nr.		
				227-97 0÷10 bar	0÷40 bar 67944 23-2010

PROVE FUNZIONALI (A RICHIESTA) Functional Test (upon request)				MISURAZIONE COPPIA DI MANOVRA (A RICHIESTA) Torque measurement (upon request)			
PRESSIONE VALVOLA Valve Pressure		PRESSIONE ATTUATORE Actuator Supply		PRESSIONE Pressure		COPPIA MISURATA Torque measurement	
ESITO PROVE Result	In accordo alla norma di riferimento According to spec. reference			ESAME VISIVO E DIMENSIONALE Visual and Dimensional Test		Esito Favorevole Positive Results	

FORNITORE Supplier — ALFA VALVOLE s.r.l. ASSICURAZIONE QUALITA'

ISPETTORE CLIENTE Customer Inspector

ENTE DI COLLAUDO Inspection Agency

I certificati di origine dei materiali sono disponibili presso Alfa Valvole Srl per la durata di 10 anni, secondo la Direttiva 97/23/CE "PED"
The certificates of origin for the material are available from AlfaValvole srl for a period of 10 years, according to the "PED" Directive 97/23/EC
Les certificats des matèriaux sont disponibles dans Alfa Valvole Srl pour 10 ans, selon la Directive 97/23/CE "PED"
Сертификаты происхождения материалов имеются в наличии и будут находится у компании Alfa Valvole srl в течении 10 лет, согласно директиве 97/23/CE "PED".
Los certificados de origen de materiales están disponibles en la firma Alfa Valvole Srl por un periodo de 10 años, según lo estipulado por la Directiva 97/23/CE " PED ".

ZHEJIANG SHIDAI CASTING CO.,LTD

INSPECTION CERTIFICATE ACCORDING TO

EN 10204 3.1

CUSTOMER: ALFA VALVOLE SRL **ORDER N.:** 000284 **REPORT N° :** 20111020218 **DATE** 2011-10-20

HEAT NR.	Q'TY	DESCRIPTION- SIZE	DRAWING NR.	MARKING
2539	100	Alfa10N DN25 UNDRILLED	3476 Rev.3 3467 Rev.3	GENOVA,ITALY MADE IN CHINA C/NO.26 LOT NUMBERS:20111020

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CHEMICAL ANALYSIS

ALLOY			C	Si	Mn	P	S	Cr	Ni	Mo				
A351 CF8M	REQUIRED	MIN						18.00	9.00	2.00				
		MAX	0.080	1.50	1.50	0.040	0.040	21.00	12.00	3.00				
HEAT NR.														
2539			0.058	0.61	1.15	0.030	0.007	18.35	9.24	2.12				

以下空白

MECHANICAL PROPERTIES

	YELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION	HARDNESS	IMPACT TEST			
REQUIRED	Rp 0.2% (Mpa)	Rmn(Mpa)	A %	Z %	HB	KV JOULE			
	min 205	> 485	min 30	min	>135 < 187	1	2	3	
HEAT NR.									
2539	228	525	43		152				

以下空白

HEAT TREATEMENT	SOLUTION TREATEMENT 1080 °C WATER
VISUAL EXAMINATION	ACCORDING MSS SP-55
TECHNICAL REQUIREMENT	EUROPEAN DIRECTIVE 97/23/EC PED ALFA-VALVOLE STAC 15 Rev. 2
	NACE MR01-75 / ISO 15156

SIGNATURE

ASSICURAZIONE QUALITA' RIMENTI

ALFA® VALVOLE S.r.l. M1B12

COPIA CONFORME ALL'ORIGINALE
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ALFA® VALVOLE s.r.l.
VALVOLE A SFERA - BALL VALVES
ROBINETS À BOULE - KUGELHÄHNE

UNI EN ISO 9001:2008
Nr. 50 100 6417 Rev.01

CE 0948-Modulo H
Certificato nr. PED-0948-QSH-321-10

CEC-06 / 2037-ADF178
Directive 94/9/EC – Article 8 (1) b) ii)

Cert. n. 6D-0195

20010 CASOREZZO (MI) - VIALE DEL LAVORO, 19
Cap. Soc. € 1.560.000,00 i.v. - Tel. 0290296206 r.a. - Fax 0290296292
E-mail: alfavalvole@alfavalvole.it - www.alfavalvole.it

DATA Date: 26/09/2012

CERTIFICATO DI COLLAUDO

INSPECTION CERTIFICATE

UNI EN 10204 3.1.

NR 1203720/91/0

CLIENTE Customer	DESMET BALLESTRA SPA	**VS. ORDINE** Your order nr.	121261 Com.2F11A/031	**DATA** Date	29/05/12
DESCRIZIONE Description	VALVOLA A SFERA	**MATERIALE** Material	WCB	**QUANTITA'** Total Q.ty'	2
TIPO Type	ALFA 10NF DN 25 UNC ANSI 150	**MATRICOLE** Identification Nr.	1209588	**DISEGNO** Drawing	
AZIONAMENTO Operator	PNEUAMTIC ACTAUTOR TYPE GAT85 SE + BOX	**SPECIFICA DI COLLAUDO** Test Specification			API 6D/ISO14313
SIGLE Item	TV63.1A. TV63.1B			Procedure IOC 001 Rev.6	

ELENCO CERTIFICATI MATERIALI
Material Certificate List

PARTICOLARE Valve Part	MATERIALE Material	QUANTITA NR. Total Q.ty Nr.	LOTTO MATERIA PRIMA Raw Material lot.Nr (RML Nr)	CERTIFICATO NR. Certificate nr.
CORPO Body	WCB	2	M2176	20111224096
CHIUSURA End	WCB	2	M2176	20111224096

Alfa Valvole S.r.l. dichiara che i prodotti e i materiali dei componenti utilizzati sono conformi ai requisiti del vostro ordine,e ai disegni applicabili
Alfa valvole S.r.l. declares that the products and the material used for the Components are in conformity to order requirements and Drawing applicable

PROVE IN PRESSIONE Pressure Test	PROVA IDRAULICA CORPO Body Hydraulic Test	PROVA IDRAULICA SEDI Seats Hydraulic Test	PROVA PNEUMATICA SEDI Seats Pneunatic Test	PROVA PNEUMATICA CORPO Body Pneunatic Test
PRESSIONE Pressure	30 bar Minimum Time 120s	22 bar Minimum Time 120s	6 bar Minimum Time 120s	
FLUIDO Fluid	Acqua con inibitore di ruggine al 3%,esente da Cloro,Fosforo Water with 3% of rust inhibitor, free of Clorine, Fosfate		ARIA Air	ARIA Air

STRUMENTAZIONE Testing apparatus	TIPO Type	MANOMETRO Pressure Gauge	MATRICOLE Identification Nr.	227-97	0÷40 bar
				0÷10 bar	67944 23-2010

PROVE FUNZIONALI (A RICHIESTA) Functional Test (upon request)				MISURAZIONE COPPIA DI MANOVRA (A RICHIESTA) Torque measurement (upon request)			
PRESSIONE VALVOLA Valve Pressure		PRESSIONE ATTUATORE Actuator Supply		PRESSIONE Pressure		COPPIA MISURATA Torque measurement	
ESITO PROVE Result	In accordo alla norma di riferimento According to spec. reference			ESAME VISIVO E DIMENSIONALE Visual and Dimensional Test		Esito Favorevole Positive Results	

FORNITORE Supplier

ALFA® VALVOLE s.r.l.
ASSICURAZIONE QUALITA'

ISPETTORE CLIENTE Customer Inspector

ENTE DI COLLAUDO Inspection Agency

I certificati di origine dei materiali sono disponibili presso Alfa Valvole Srl per la durata di 10 anni, secondo la Direttiva 97/23/CE "PED"
The certificates of origin for the material are available from AlfaValvole srl for a period of 10 years, according to the "PED" Directive 97/23/EC
Les certificats des matèriaux sont disponibles dans Alfa Valvole Srl pour 10 ans, selon la Directive 97/23/CE "PED"
Сертификаты происхождения материалов имеются в наличии и будут находится у компании Alfa Valvole srl в течении 10 лет, согласно директиве 97/23/CE "PED".
Los certificados de origen de materiales están disponibles en la firma Alfa Valvole Srl por un periodo de 10 años, según lo estipulado por la Directiva 97/23/CE " PED ".

ALFA® VALVOLE s.r.l.
VALVOLE A SFERA - BALL VALVES
ROBINETS À BOULE - KUGELHÄHNE

UNI EN ISO 9001:2008
Nr. 50 100 6417 Rev.01

CE 0948-Modulo H
Certificato nr. PED-0948-QSH-321-10

CEC-06 / 2037-ADF178
Directive 94/9/EC – Article 8 (1) b) ii)

Cert. n. 6D-0195

20010 CASOREZZO (MI) - VIALE DEL LAVORO, 19
Cap. Soc. € 1.560.000,00 i.v. - Tel. 0290296206 r.a. - Fax 0290296292
E-mail: alfavalvole@alfavalvole.it - www.alfavalvole.it

DATA / Date	26/09/2012	CERTIFICATO DI COLLAUDO INSPECTION CERTIFICATE UNI EN 10204 3.1.	NR 1203720/101/0

CLIENTE / Customer	DESMET BALLESTRA SPA	VS. ORDINE / Your order nr.	121261 Com.2F11A/031	DATA / Date	29/05/12
DESCRIZIONE / Description	VALVOLA A SFERA Ball Valves	MATERIALE / Material	WCB	QUANTITA' / Total Q.ty°	1
TIPO / Type	ALFA 10NF DN 25 UNC ANSI 150	MATRICOLE / Identification Nr.	1209589	DISEGNO / Drawing	
AZIONAMENTO / Operator	PNEUAMTIC ACTAUTOR TYPE GAT85 SE + BOX	SPECIFICA DI COLLAUDO / Test Specification		API 6D/ISO14313 Procedure IOC 001 Rev.6	
SIGLE / Item	HV64.10				

ELENCO CERTIFICATI MATERIALI
Material Certificate List

PARTICOLARE / Valve Part	MATERIALE / Material	QUANTITA NR. / Total Q.ty Nr.	LOTTO MATERIA PRIMA / Raw Material lot.Nr (RML Nr)	CERTIFICATO NR. / Certificate nr.
CORPO / Body	WCB	1	M2176	20111224096
CHIUSURA / End	WCB	1	M2176	20111224096

Alfa Valvole S.r.l. dichiara che i prodotti e i materiali dei componenti utilizzati sono conformi ai requisiti del vostro ordine,e ai disegni applicabili
Alfa valvole S.r.l. declares that the products and the material used for the Components are in conformity to order requirements and Drawing applicable

PROVE IN PRESSIONE / Pressure Test	PROVA IDRAULICA CORPO / Body Hydraulic Test	PROVA IDRAULICA SEDI / Seats Hydraulic Test	PROVA PNEUMATICA SEDI / Seats Pneunatic Test	PROVA PNEUMATICA CORPO / Body Pneunatic Test
PRESSIONE / Pressure	30 bar Minimum Time 120s	22 bar Minimum Time 120s	6 bar Minimum Time 120s	
FLUIDO / Fluid	Acqua con inibitore di ruggine al 3%,esente da Cloro,Fosforo Water with 3% of rust inhibitor, free of Clorine, Fosfate		ARIA Air	ARIA Air

STRUMENTAZIONE / Testing apparatus	TIPO / Type	MANOMETRO / Pressure Gauge	MATRICOLE / Identification Nr.		
				227-97 0÷10 bar	0÷40 bar 67944 23-2010

PROVE FUNZIONALI (A RICHIESTA) / Functional Test (upon request)				MISURAZIONE COPPIA DI MANOVRA (A RICHIESTA) / Torque measurement (upon request)			
PRESSIONE VALVOLA / Valve Pressure		PRESSIONE ATTUATORE / Actuator Supply		PRESSIONE / Pressure		COPPIA MISURATA / Torque measurement	
ESITO PROVE / Result	In accordo alla norma di riferimento / According to spec. reference			ESAME VISIVO E DIMENSIONALE / Visual and Dimensional Test		Esito Favorevole / Positive Results	

FORNITORE / Supplier

ALFA® VALVOLE s.r.l.
ASSICURAZIONE QUALITA'

ISPETTORE CLIENTE / Customer Inspector

ENTE DI COLLAUDO / Inspection Agency

I certificati di origine dei materiali sono disponibili presso Alfa Valvole Srl per la durata di 10 anni, secondo la Direttiva 97/23/CE "PED"
The certificates of origin for the material are available from AlfaValvole srl for a period of 10 years, according to the "PED" Directive 97/23/EC
Les certificats des matèriaux sont disponibles dans Alfa Valvole Srl pour 10 ans, selon la Directive 97/23/CE "PED"
Сертификаты происхождения материалов имеются в наличии и будут находится у компании Alfa Valvole srl в течении 10 лет, согласно директиве 97/23/CE "PED".
Los certificados de origen de materiales están disponibles en la firma Alfa Valvole Srl por un periodo de 10 años, según lo estipulado por la Directiva 97/23/CE " PED ".

ZHEJIANG SHIDAI CASTING CO.,LTD

INSPECTION CERTIFICATE ACCORDING TO EN 10204 3.1

CUSTOMER ALFA VALVOLE SRL **ORDER N.:** 001100 **REPORT N° :** 20111224096 **DATE** 2011-12-24

HEAT NR.	Q'TY	DESCRIPTION- SIZE	DRAWING NR.	MARKING
2648	393	Body Alfa10N DN25 UNDRILLED	3476 Rev.3 3467 Rev.3	GENOVA,ITALY MADE IN CHINA C/NO:2 LOT NUMBERS:20111224
2649	195	Body Alfa10N DN25 UNDRILLED	3476 Rev.3 3467 Rev.3	
2108	4	Body Alfa10N DN25 UNDRILLED	3476 Rev.3 3467 Rev.3	
2120	7	Body Alfa10N DN25 UNDRILLED	3476 Rev.3 3467 Rev.3	
2116	1	Body Alfa10N DN25 UNDRILLED	3476 Rev.3 3467 Rev.3	

CHEMICAL ANALYSIS

ALLOY			C	Si	Mn	P	S	Cr	Ni	Mo	Cu	V		CE
A216 WCB	REQUIRED	MIN												
		MAX	0.230	0.600	1.000	0.040	0.045	0.500	0.500	0.20	0.300	0.03		0.430
HEAT NR.														
2648			0.193	0.49	0.84	0.019	0.011	0.340	0.320	0.002	0.050	0.006		0.427
2649			0.200	0.43	0.83	0.017	0.013	0.240	0.210	0.001	0.046	0.005		0.405
2108			0.220	0.48	0.82	0.017	0.016	0.026	0.001	0.001	0.022	0.014		0.366
2120			0.220	0.45	0.75	0.014	0.013	0.001	0.001	0.001	0.022	0.009		0.349
2116			0.230	0.40	0.79	0.016	0.014	0.050	0.001	0.003	0.026	0.011		0.376

MECHANICAL PROPER TENSILE STRENGTH

	YELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION	HARDNESS	IMPACT TEST			
REQUIRED	Rp0.2%(Mpa)	Rmn (Mpa)	A %	Z %	HB	KV JOULE			
	min 250	> 485	min 22	min 35	>135 < 187	1	2	3	
HEAT NR.									
2648	327	534	31	44	167				
2649	323	528	33	47	163				
2108	314	521	30	43	164				
2120	298	510	32	47	160				
2116	318	522	30	43	162				

HEAT TREATEMENT	NORMALIZED 920°C
VISUAL EXAMINATION	ACCORDING MSS SP-55
TECHNICAL REQUIRE-MENT	EUROPEAN DIRECTIVE 97/23/EC PED ALFA VALVOLE STAC 13 Rev. 2.
	NACE MR01-75 / ISO 15156

SIGNATURE

ASSICURAZIONE QUALITA' RML Nr.

ALFA® VALVOLE s.r.l. M2176

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ALFA VALVOLE s.r.l.
VALVOLE A SFERA - BALL VALVES
ROBINETS À BOULE - KUGELHÄHNE

UNI EN ISO 9001:2008
Nr. 50 100 6417 Rev.01

CE 0948-Modulo H
Certificato nr. PED-0948-QSH-321-10

CEC-06 / 2037-ADF178
Directive 94/9/EC – Article 8 (1) b) ii)

Cert. n. 6D-0195

20010 CASOREZZO (MI) - VIALE DEL LAVORO, 19
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E-mail: alfavalvole@alfavalvole.it - www.alfavalvole.it

DATA Date: 26/09/2012

CERTIFICATO DI COLLAUDO

INSPECTION CERTIFICATE
UNI EN 10204 3.1.

NR 1203720/111/0

CLIENTE Customer	DESMET BALLESTRA SPA	**VS. ORDINE** Your order nr.	121261 Com.2F11A/031	**DATA** Date	29/05/12
DESCRIZIONE Description	VALVOLA A SFERA Ball Valves	**MATERIALE** Material	CF8	**QUANTITA'** Total Q.ty	2
TIPO Type	ALFA 10NF DN 150 UNC ANSI 150	**MATRICOLE** Identification Nr.	1209590	**DISEGNO** Drawing	
AZIONAMENTO Operator	PNEUAMTIC ACTAUTOR TYPE GAT250 SE + BOX	**SPECIFICA DI COLLAUDO** Test Specification		API 6D/ISO14313 Procedure IOC 001 Rev.6	
SIGLE Item	KV63.2A, KV63.2B				

ELENCO CERTIFICATI MATERIALI
Material Certificate List

PARTICOLARE Valve Part	MATERIALE Material	QUANTITA NR. Total Q.ty Nr.	LOTTO MATERIA PRIMA Raw Material lot.Nr (RML Nr)	CERTIFICATO NR. Certificate nr.
CORPO Body	CF8	2	M0206	20100129168
CHIUSURA End	CF8	2	M0833	20100909227
SFERA Ball	CF8	2	M0600	2010040101-6

Alfa Valvole S.r.l. dichiara che i prodotti e i materiali dei componenti utilizzati sono conformi ai requisiti del vostro ordine,e ai disegni applicabili
Alfa valvole S.r.l. declares that the products and the material used for the Components are in conformity to order requirements and Drawing applicable

PROVE IN PRESSIONE Pressure Test	PROVA IDRAULICA CORPO Body Hydraulic Test	PROVA IDRAULICA SEDI Seats Hydraulic Test	PROVA PNEUMATICA SEDI Seats Pneunatic Test	PROVA PNEUMATICA CORPO Body Pneunatic Test
PRESSIONE Pressure	30 bar Minimum Time 300s	22 bar Minimum Time 300s	6 bar Minimum Time 300s	
FLUIDO Fluid	Acqua con Inibitore di ruggine al 3%,esente da Cloro,Fosforo Water with 3% of rust inhibitor, free of Clorine, Fosfate		ARIA Air	ARIA Air

STRUMENTAZIONE Testing apparatus	TIPO Type	MANOMETRO Pressure Gauge	MATRICOLE Identification Nr.	227-97 0÷10 bar	0÷40 bar 67944 23-2010

PROVE FUNZIONALI (A RICHIESTA) Functional Test (upon request)				MISURAZIONE COPPIA DI MANOVRA (A RICHIESTA) Torque measurement (upon request)			
PRESSIONE VALVOLA Valve Pressure		PRESSIONE ATTUATORE Actuator Supply		PRESSIONE Pressure		COPPIA MISURATA Torque measurement	
ESITO PROVE Result	In accordo alla norma di riferimento According to spec. reference			ESAME VISIVO E DIMENSIONALE Visual and Dimensional Test		Esito Favorevole Positive Results	

FORNITORE Supplier — ALFA VALVOLE s.r.l. ASSICURAZIONE QUALITA'

ISPETTORE CLIENTE Customer Inspector

ENTE DI COLLAUDO Inspection Agency

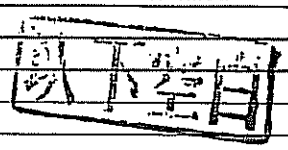
I certificati di origine dei materiali sono disponibili presso Alfa Valvole Srl per la durata di 10 anni, secondo la Direttiva 97/23/CE "PED"
The certificates of origin for the material are available from AlfaValvole srl for a period of 10 years, according to the "PED" Directive 97/23/EC
Les certificats des matèriaux sont disponibles dans Alfa Valvole Srl pour 10 ans, selon la Directive 97/23/CE "PED"
Сертификаты происхождения материалов имеются в наличии и будут находится у компании Alfa Valvole srl в течении 10 лет, согласно директиве 97/23/CE "PED".
Los certificados de origen de materiales están disponibles en la firma Alfa Valvole Srl por un periodo de 10 años, según lo estipulado por la Directiva 97/23/CE " PED ".

ZHEJIANG SHIDAI CASTING CO.,LTD

INSPECTION CERTIFICATE ACCORDING TO EN 10204 3.1

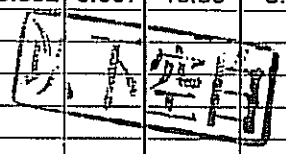
CUSTOMER: ALFA VALVOLE SRL **ORDER N.:** 901834 **REPORT N° :** 20100129168 **DATE** 2010-1-29

HEAT NR.	Q'TY	DESCRIPTION- SIZE	DRAWING NR.	MARKING
891	50	BODY A1N/A64/A68 DN150 Undrilled	5751 Rev.1	GENOVA, ITALY MADE IN CHINA C/NO. 18,19 LOT NUMBERS:20100 131



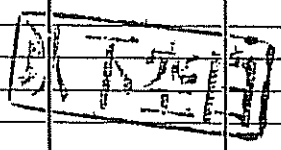
CHEMICAL ANALYSIS

ALLOY			C	Si	Mn	P	S	Cr	Ni	Mo				
A351 CF8	REQUIRED	MIN						18.00	8.00					
		MAX	0.080	2.00	1.50	0.040	0.040	21.00	11.00	0.50				
HEAT NR.														
891			0.060	0.54	0.90	0.032	0.007	18.30	8.20					



MECHANICAL PROPERTIES

	YELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION	HARDNESS	IMPACT TEST			
REQUIRED	Rp 0.2% (Mp	Rmn(Mpa)	A %	Z %	HB	KV JOULE			
	min 205	> 485	min 35	min	>135 < 187	1	2	3	
HEAT NR.									
891	221	524	44		151				



HEAT TREATEMENT	SOLUTION TREATEMENT 1080 °C WATER
VISUAL EXAMINATION	ACCORDING MSS SP-55
TECHNICAL REQUIREMENT	EUROPEAN DIRECTIVE 97/23/EC PED NACE MR01-75 / ISO 15156

ALFA VALVOLE STAC 16 Rev. 2

ASSICURAZIONE QUALITA' RMLSIGNATURE

M0206

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ZHEJIANG SHIDAI CASTING CO.,LTD

INSPECTION CERTIFICATE ACCORDING TO EN 10204 3.1

CUSTOMER: ALFA VALVOLE SRL **ORDER N.:** 901834 **REPORT N° :** 20100909227 **DATE** 2010-9-9

HEAT NR.	Q'TY	DESCRIPTION- SIZE	DRAWING NR.	MARKING
265123	7	CAP A10N 150 UNDRILLED	5791 Rev.2	GENOVA, ITALY MADE IN CHINA C/NO. 25 LOT NUMBERS:20100909
265033	1	CAP A10N 150 UNDRILLED	5791 Rev.2	

以下空白

CHEMICAL ANALYSIS

ALLOY	REQUIRED		C	Si	Mn	P	S	Cr	Ni	Mo
A351 CF8		MIN						18.00	8.00	
		MAX	0.080	2.00	1.50	0.040	0.040	21.00	11.00	0.50
HEAT NR.										
265123			0.057	0.51	0.90	0.032	0.005	18.30	8.10	
265033			0.059	0.49	0.74	0.033	0.007	18.30	8.20	

以下空白

MECHANICAL PROPERTIES

	YELD POINT	TENSILE STRENGTH	ELONGATION	REDUCTION	HARDNESS	IMPACT TEST
REQUIRED	Rp 0.2% (Mpa	Rmn(Mpa)	A %	Z %	HB	KV JOULE
	min 205	> 485	min 35	min	>135 < 187	1 2 3
HEAT NR.						
265123	219	522	48		149	
265033	226	525	45		152	

以下空白

HEAT TREATEMENT	SOLUTION TREATEMENT 1080 °C WATER
VISUAL EXAMINATION	ACCORDING MSS SP-55
TECHNICAL REQUIREMENT	EUROPEAN DIRECTIVE 97/23/EC PED ALFA VALVOLE STAC 16 Rev. 2
	NACE MR01-75 / ISO 15156

SIGNATURE

ASSICURAZIONE QUALITA' RML Nr. M0833

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Doc No. 2-15 Annex22

Material Test Certificate According to EN 10204 3.1

DATE: 2010/04/01
P/O NO.: 000160 rev.0
CERTIFICATE NO.: 2010040101-6

PURCHASER: AF-100030
STANDARD: PrEN12266-1
PRODUCT: Ball
MATERIAL ASTM A351 CF8
INSP.RESULT:

Anson Flow Corp
7F-2,No.408, Sec.2,Nantun Rd Taichung,
Taiwan(R.O.C.)

ITEM NO.	NOMINAL PRESSURE	SIZE	Q'TY PCS	HEAT NO.	VISUAL & DIMENTIONAL INSPECTION	SHELL TEST (BAR/SEC)	BACK SEAT TEST AIR TEST (BAR/SEC)	PENETRATION /RADIOGARPHIC EXAMINATION	HEAT TREATMENT SYMBOL, TEMP. & DURATION
1	-	DN25	15,448	OD	GOOD	NA	NA	NA	SEE HEAT TREATMENMT PRPORT
2	-	DN150	288	ON	GOOD	NA	NA	NA	SEE HEAT TREATMENMT PRPORT
3	-	DN200	120	OP	GOOD	NA	NA	NA	SEE HEAT TREATMENMT PRPORT
4									
5									

ITEM NO.	MATERIAL CHARGE NO.	C %	Si %	Mn %	P %	S %	Ni %	Cr %	Mo %	TS N/mm²	Rp N/mm² in 0.2%	Rp N/mm² in 1.0%	Elo. %	Hardness (HB)	Impact Test (J)			
		≦0.08	≦2.00	≦1.50	≦0.040	≦0.040	8.0-11.0	18.0-	≦0.50	≧485	≧205	NA	≧35	>135	1	2	3	Σ/3
1	OD	0.039	0.470	1.090	0.039	0.0030	8.250	18.210	0.120	512	238	NA	39	170	–	–	–	–
2	ON	0.045	0.460	1.010	0.032	0.0020	8.270	18.690	0.140	515	234	NA	38	174	–	–	–	–
3	OP	0.046	0.405	1.150	0.031	0.0048	8.120	18.380	0.165	516	235	NA	39	174	–	–	–	–
4																		
5																		

WE HERE BY CERTIFY THAT THE PRODUCT DESCRIBED HERE IN HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE SPECIFICATIONS CONCERNED AND ALSO WITH THE PURCHASER'S REQUIREMENTS AND THAT THE TEST RESUETS SHOWN HERE IN ARE CORRECTLY TRANSFERRED FROM ORIGINAL INSPECTION RECORDS.

HEAT TREATMENT:
CF8M/CF3M/CF8/1.4409/1.4308/1.4552/1.4581: Solution annealed to 1050-1100°C, 1.4408: Solution annealed to 1080-1150°C, 2 hours minimum and quenched in water.
WCC: Normalized to 930°C, 1.0619: Normalized to 900-980°C, 2 hours minimum. Cooling in air. Stress relief to 650°C, 2 hours minimum. Cooling in air.

Lawrence
Q.A REPPESENTATIVE

ASSICURAZIONE QUALITA' RML Nr.
MATTA® VALVOLE s.r.l. M0600
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COPY COMPLYING WITH THE ORIGINAL

Anson Flow Corp.
7F-2, No. 408, Sec.2,
Nantun Rd., Taichung, Taiw.
TEL:886-4-2472-0991
FAX:886-4-2473-4246

ALFA VALVOLE s.r.l.

Doc. nr. : **MRB003720-2012**

CLIENTE :

DESMET BALLESTRA SPA

P.O nr. 121261 COM.2F11A/031

Declaration of Conformity according 97/23/CE "PED"
Dichiarazione di conformità alla 97/23/CE "PED"

ALFA VALVOLE s.r.l.

UNI EN ISO 9001: 2008
Nr. 50 100 6417 - Rev. 01

CE 0948-Modulo H
Certificato nr. PED-0948-QSH-321-10

CEC-08 / 2007-ADP 178
Direttiva 94/9/EC - Articolo 8 (1) b) ii)

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DICHIARAZIONE DI CONFORMITA'
Declaration of Conformity – Declaration de Conformité

" PED " Directive 97/23/CE

La sottoscritta dichiara che i seguenti prodotti sono stati progettati, fabbricati e collaudati in conformità ai requisiti della Direttiva 97/23/CE "PED" e provvisti di marcatura CE in accordo.
We hereby declare that the following products have been designed, manufactured and tested in compliance with the Directive 97/23/CE and CE marked accordingly.

Descrizione apparecchiatura : *Description of the equipment*	**Valvola a sfera a sedi soffici a stelo nudo, con comando manuale a leva, tramite riduttore manuale o attuatore pneumatico, idraulico od elettrico modelli :** **ALFA 10 / 10N / 10NF / 10HP / 103 / 20T / 20R / K20T / 22EV / 24 / 24K / 50 / 54 / 58 / 506 / 60 / 64 / 68 / 606 / 609 / 615 / 625 / 30 / 32 / T2 / T3** *Soft seated ball valve with bare stem, lever operation or complete with manual gear or pneumatic, hydraulic or electric actuator or of the following models:* **ALFA 10 / 10N / 10NF / 10HP / 103 / 20T / 20R / K20T / 22EV / 24 / 24K / 50 / 54 / 58 / 506 / 60 / 64 / 68 / 606 / 609 / 615 / 625 / 30 / 32 / T2 / T3**

Secondo le limitazioni dimensionali e di condizioni di esercizio descritte nei relativi Manuali d'uso e Manutenzione.
In accordance to the limitations described in the relevant Instruction and Use Manuals.

Procedura di Conformità utilizzata *Conformity Assessment procedure used*	**Modulo H (Categorie II e III)** *Module H (Category II and III)*

Organismo notificato incaricato della valutazione di conformità *Notified Body charged of the conformity assessment*	**TUV Italia srl** Via Carducci 125, Pal.23 20099 Sesto San Giovanni MI Italia	Organismo No. *Notified Body No.* **0948**

Certificato di approvazione del Sistema Qualità no. : PED-0948-QSH-321-10
Quality System Approval certificate no.

Norme applicate alla progettazione, fabbricazione e collaudo *Applicable Standards on design, manufacturing and testing*	ASME II Part.D – ASME VIII Div.1 – ASME B16.34 ASME III Subsect. NB – ASME VIII Div.1 App.L - API 6FA API 607 - EN ISO 10497 – API 6D –BS5351 I.S.P.E.S.L. Code Case M/S – ISO 13445-3

Altre Direttive Europee applicate all'attrezzatura
Other European Directives applied to the equipment

94/9/CE "ATEX" Gruppo e Categoria di appartenenza
Group and Category
Ex II 2 GD c T6 X

Casorezzo, li 13/10/2010

Persona Autorizzata dal Costruttore nella CEE
Authorized Person for the Manufacturer within E.C
Sig. G.C. Rossi
Presidente C. E. O.

ALFA VALVOLE S.r.l.

Doc. nr. : **MRB0037202012**

CLIENTE :

DESMET BALLESTRA SPA

P.O nr. 121261 COM.2F11A/031

Valves installation-operation-maintenance manuals
Manuali d' uso e manutenzione delle valvole

OPERATING AND MAINTENANCE MANUAL
ALFA WAFER BALL VALVES
Models ALFA 10N / 10NF / 103 / 10HP

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0. TECHNICAL DATA

0.1 MANUFACTURER

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0.2 ALLOWED USE AND LIMITS

Operators involved in the storage, mounting, use and/or maintenance of our products are requested to have sufficient skill and experience in such a kind of equipments. It's user responsibility to guarantee this skill is met.

Service : ON-OFF and deviation of liquids e gases (A103 type valves, only)
Fluids : liquids e gases Group 1 (dangerous), not unstable, according to the EC Directive 97/23/EC "PED" – Category III

Use in potentially explosive atmospheres : II 2 GD c T6 X according to the EC Directive 94/9/EC "ATEX"

Minimum guaranteed tightness limits on brand new valve :

Emissions to atmosphere	on request, according to TA-LUFT and/or ISO 15848-1 requirements	
Hydrostatic Body Test	(1,5 x Maximum working pressure at room temperature)	Zero Leakage
Hydrostatic Seat Test	(1,1 x Maximum working pressure at room temperature)	Zero Leakage
Pneumatic Seat Test	(Air , 6 bar)	Zero Leakage

"Fire Safe" features : on request, according to ISO 10497 / API 607 / API 6FA / BS 6755 , (A103 type valves , excluded).

Model	**ALFA 10N ALFA 10NF ALFA 103**		**ALFA 10N ALFA 10NF ALFA 103**		**ALFA 10N ALFA 10NF ALFA 103**	**ALFA 10HP ALFA 103**	
Class	**PN10-16 ANSI 150**		**PN25- 40**		**ANSI 300**	**PN63 PN100 ANSI 600**	
Nominal Diameters	DN10÷200 (ALFA103 DN15÷150)		DN10÷200 (ALFA103 DN15÷150)		DN 15÷200 (ALFA103 DN15÷150)	DN10÷100 (ALFA103 DN15÷100)	
Maximum working pressure at room temperature (bar)	10	PN10	25	PN25	51	63 100 63	PN63 PN100 DN>80
	16 20	PN16 A.150	40	PN40		102 63	A.600 DN>80
Maximum working pressure at maximum temperature (bar)	8		8		15	63 80 63 80 63	PN63 PN100 DN>80 A.600 DN>80
	Pressure values between room temperature and maximum temperature vary depending of characteristics of used seats/seals materials. Please contact ALFA VALVOLE Technical Dept. for more information.						
Maximum working temperature	200°C	DN10÷50				90°C	DN10÷50
	180°C	DN65-80					
	160°C	DN100÷150				70°C	DN65÷100
	120°C	DN200					
Minimum working and room temperature	-29°C**	for carbon steel A105 / A216 WCB valve bodies			with impact test verification when TR* ≤ 21°C		
	-40°C**	for carbon steel A350 LF2 / A352 LCB valve bodies					
	-40°C**	for stainless steel valve bodies			without impact test verification		
Maximum simultaneous working conditions	Please contact ALFA VALVOLE Technical Dept.						

***TR = design temperature, for impact test verification, according to I.S.P.E.S.L. Code Case M Table M.14.2 and EN 13445 standard.**

The body thickness is assigned so that the design temperature, for impact test verification according to I.S.P.E.S.L. Code Case M Table M.14.2 and EN 13445 standard, are above 21 ° C.

**** Other restrictions imposed from the material of the seat ring, the gasket material and the nominal diameter of the valve will be indicated on the nameplate attached to the valve body.**

Table of nominal dimensions of valves

DN	10	15	20	25	32	40	50	65	80	100	125	150	200
Ø"	3/8"	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	2.1/2"	3"	4"	5"	6"	8"

0.3 SPECIFIC DESIGN PROCEDURES

END CONNECTIONS	Flanged ANSI/DIN/UNI/EN with blind or straight screwed holes	
BODY THICKNESS	ASME VIII Div.1 – ASME B16.34 – DIN 3840	
BOLTING DESIGN	ASME VIII Div.1 – ASME B16.34 (Split Body only)	
SCREWED CONNECTION DESIGN	ASME B16.34 (Screwed Connector only)	
FLANGE DESIGN	ASME VIII Div.1 (Split Body only)	
SIMULTANEOUS LOADS	Pressure, Bending, Axial Loads from piping	
WIND LOADS	Negligible, according to ASME III Div.1 Subsect.NB	
EARTHQUAKE LOADS	Negligible, according to ASME III Div.1 Subsect.NB	
FATIGUE from On-Off starting cycles	Negligible, according to ASME III Div.1 Subsect.NB (see the maximum number of operating hours)	
FATIGUE from service pressure fluctuation	Negligible, according to ASME III Div.1 Subsect.NB (see the maximum number of operating hours)	
MAXIMUM LIFE IN SERVICE HOURS	Function of actual simultaneous working conditions and fluids but anyway not longer than :	
	100.000	(see para 3.1 for recommended periodical inspections);
	50.000	operations of opening/closing of the valve (liquid service)
	5.000	operations of opening/closing of the valve (gas service)
AVAILABLE CORROSION OVERTHICKNESS	1.5 mm min. (carbon steel valves only)	
ANTISTATIC FEATURES	according to API 6D app. B5	

1. TRANSPORT, HANDLING AND STORAGE

1.1 TRANSPORT AND HANDLING

Valves must be transported and handled maintaining the ball in the open position.
DO NOT remove the protection caps from the ends until the valve is to be mounted in line.

Avoid impacts against obstacles that may damage the stem or the auxiliary connections (drains, sealant injectors, vents).

1.2 STORAGE

Valves with carbon steel or stainless steel bodies must both be stored with ball in the OPEN position and in a location dry and free from fumes, gas or corrosive vapours.
For long storage periods it is advisable to cover the external surface with a layer of protective wax (Tectyl) or close the valves in polythene bags.

2. ASSEMBLY

2.1 All valves are bi-directional (A103 type valves , excluded) and supplied ready to use.
Valves can be placed with stem oriented to any direction.

ATTENTION : remove the protective caps from the valve ends before connection to pipeline or the cap from the inlet side of the fluid.
Ensure that all auxiliary connections, if any, (lubricators, drains, vents) are free of damage and properly tightened.

3. MAINTENANCE

3.1 A general control of the valve is advisable every 2 years of functioning or every 5.000 opening and closing cycles.
The execution of eventual intervention must follow the procedure illustrated on the attached card.

In occurrence of dirty fluids interception, more frequent periodic checks are recommended, please contact ALFA VALVOLE Technical Dept for further information.

ATTENTION : it's user's responsibility to maintain the safety features of the product and of their components in case of maintenance / repair on their own.

4. TESTING

4.1 Before carrying out of any test, to verify there are no problems in the movement of the ball, make at least one complete stroke of opening and closing.

4.2 Valve must be tested using the following procedure:

a) Place the ball in a semi-open position
b) Pressurise the valve body, by water, with a pressure 1,5 times the maximum operating pressure at room temperature (see table at para 0.2)
c) Verify that there are no leaks from the body seals
d) Release the pressure
e) Close the valve
f) Pressurise the first seat with water at a pressure 1,1 times the maximum operating pressure at room temperature (see table at para 0.2)
g) Verify that there are no leaks from the end opposite to that pressurised
h) Release the pressure
i) Pressurise the second seat (if present) with water at a pressure 1,1 times the maximum operating pressure at room temperature (see table at para 0.2)
j) Verify that there are no leaks from the end opposite to that pressurised
k) Release the pressure and drain the valve completely of any water
l) Repeat the tests described in points f) and i) using air at 6 bar and verifying that there are no leaks from the end opposite to that pressurised

WARNING : during the test, valve must be firmly blocked on the test rig to avoid any possible danger to personnel caused by the pressure.
ALFA VALVOLE declines all responsibility regarding damage to things or people following to tests carried out in accordance with the above procedure.

ATTENTION : while considering the above information sufficient for proper execution of the maintenance of the valve, ALFA VALVOLE not give any warranty on the outcome of the intervention, not extended warranty, unless the action is performed by ALFA VALVOLE personnel at its workshops.

5. HOW TO ORDER SPARE PARTS

5.1 User must specifies, when ordering spare parts:

Valve model
Nominal diameter
Pressure class
Identification number or name of the part to be substituted (ref. attached card)
Material of the spare part (or of the original part)
Original order number or serial number of the valve

6. WARNINGS AND USE LIMITATIONS

6.1 Here described valves are intended for use with clean or slightly abrasive fluids (without solid particles).

ATTENTION : their use with abrasive fluids can cause the rapid decay of the sealing characteristics of the valve during operation;
any presence of solids or the use with hardening fluids which harden can cause a quick reduction of the tightness and of the operability.

6.2 User must provide adequate methods to eliminate risks associated with the temperature of the external surface of the valve during operations.

ATTENTION : User must evaluate the valve body surface temperature when the outside ambient has potentially explosive conditions.

It is not possible to identify the body surface temperature in accordance to the Directive 94/9/EC "ATEX" because it is a function of handled fluid temperature (surface temperature of valve body tends to reach the temperature of intercepted fluid).

User must provide appropriate methods to reduce the surface temperature of the valve body when the temperature of the intercepted fluid exceeds T6 limit.

During services with fluids at room temperature and in the presence of repeated maneuvers, at intervals not greater than 1 operation every 10 seconds, the valves do not exceed 60 ° C (T6 class temperature, according to EN 13463-1).

6.3 Valves must be used within maximum and minimum values of temperature and pressure above indicated or in nameplate. For further details about maximum allowable pressure/temperature combinations please contact ALFA VALVOLE technical department.

ATTENTION : User must provide suitable means against the exceeding of the operating limits.

6.4 Before carrying out of any intervention on ball valve, verify that there is no pressure in the body cavity by carrying out a complete opening and closing cycle.

6.5 **ATTENTION :** before removing any service connection such as drain plugs, vents, sealant injectors or stem, make sure of the absence of pressure inside the body cavity of the valve.

The removal, even if accidental, of drain plugs, vents or sealant injectors may cause a dangerous sudden discharge of pressure to the atmosphere and the expulsion of the organ itself.

Before carrying out this operation however, we recommend the use of personal safety equipment.

6.6 Before doing any intervention, ensure that no dangerous residue is contained in the valve body.
The valves must be completely drained and cleaned in the cavity around the ball before any intervention.

WARNING : any entrapped residue will be expelled from the ends of the valve.

6.7 **ATTENTION :** when installing the valve, User must ensure the same equipotential electrical level between valve and piping system in order to prevent electric shock.

6.8 **ATTENTION :** when used in a potentially explosive area, for the purposes of Directive 94/9/EC "ATEX", User must provide appropriate means to avoid impacts of metal parts against the valve body during assembly, service time and maintenance.

6.9 Quick closure of the valve against high speed flows can cause overstressing of the seats due to "water hammer", which can determine reduction of valve tightness.

ATTENTION : User must provide suitable means against the effects of "water hammers".

6.10 The maximum number of operating hours can be influenced by the real operating conditions.

ATTENTION : User must evaluate the minimum time between inspections, basing on actual operating conditions, in particular in relation to the degree of corrosion/year used in the piping design with reference to the corrosion overthickness (see para.0.3 of this manual).

Time between inspections should not be longer than 2 years or 5.000 full open and close strokes.

6.11 **ATTENTION :** the user must carry out periodic inspections in order to eliminate any accumulation of powder greater than 5 mm in correspondence with the sliding surfaces of the stem/valve body and actuator pinion /actuator body.

6.12 **ATTENTION :** the functioning of valves complete with actuators is not guaranteed in the event of an earthquake due to possible misalignment of connection between valve stem and actuator pinion.
Valve and actuator assembly is calculated for a maximum earthquake magnitude incrementing 40% the dead weight of actuator and valve cover.

6.13 **ATTENTION :** assembling of actuators for valve operation different to that supplied is not allowed without previous approval from the manufacturer.

6.14 Actuators, any type, are not suitable to resist against external fire conditions.

ATTENTION : actuators fire-safe properties can be obtained by use of fire-protection boxes enabling, to avoid system (valve+actuators) malfunctions.

6.15 **ATTENTION :** cabling of actuators and electrical accessories should be realized after valve mounting to piping system and according to the specifications showed in the relevant use and maintenance manuals.

6.16 **ATTENTION :** the user must establish an appropriate control program to verify the integrity of the lubricating grease in the manual gears, if installed.

6.17 **ATTENTION :** split body type valves are suitable for resisting to reduced axial forces from piping system.
If necessary, require maximum values of allowed axial loads from ALFA VALVOLE technical department.

6.18 **ATTENTION :** valves can be used as end-type valves only by specific customer request and for working pressures not exceeding 77% of the stated maximum working pressure at room temperature.

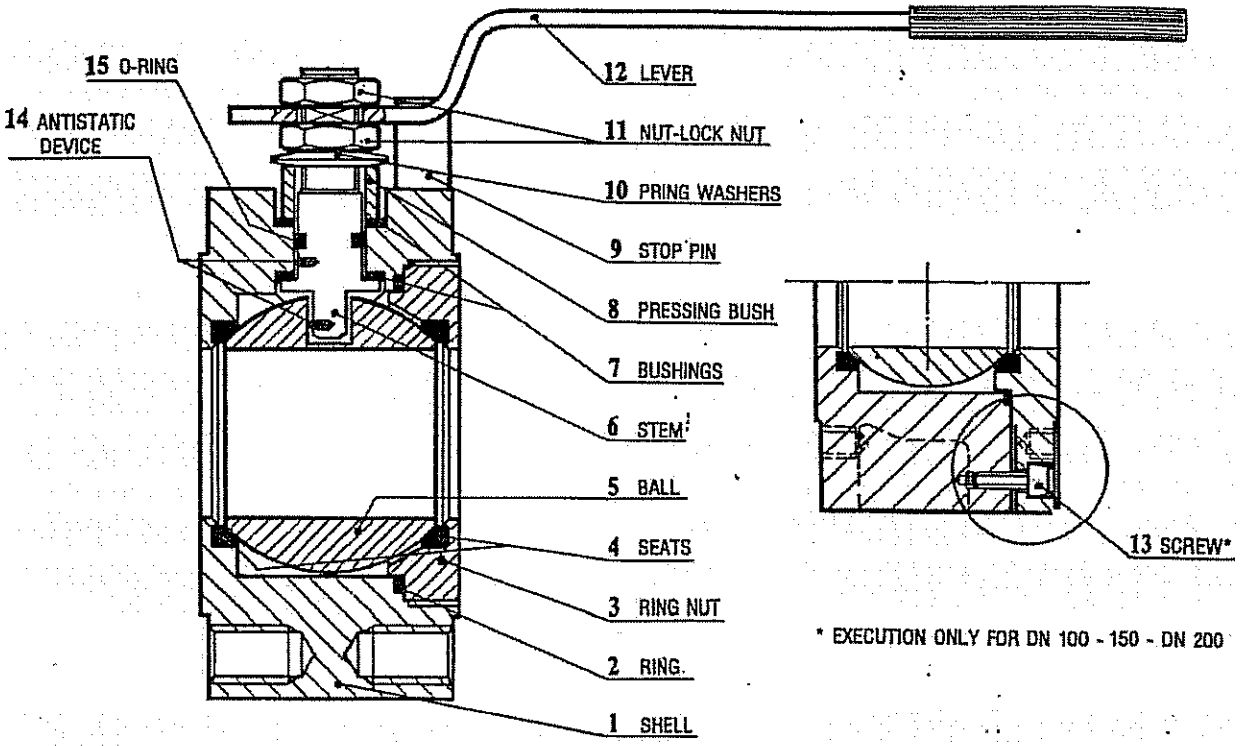
7. TROUBLE SHOOTING

Malfunction	Possible cause	Action
Leakage through the valve	Ball surface damage	Replace the ball
	Seat damage	Replace the seats or try with injection of sealant grease (trunnion mounted construction only)
	Not complete closure	Check Open/Close limits and settings
Ball movement not regular (actuated valves)	Dirt between ball and seats	Flush the inside, operating the valve 5 times
	Dirt between ball and body cavities	Flush the inside, operating the valve 5 times
	Not sufficient air supply flow	Confirm working conditions are as per request
	Not sufficient air discharge	Include quick exhaust valve
Valve torque too high	Seat damage	Replace the seats
	Dirt between ball and seats	Flush the inside operating the valve 5 times
	Dirt between ball and body cavities	Flush the inside operating the valve 5 times
	Excessive Pressure or Temperature	Confirm working conditions are as per request
Stem leakage	Stem nuts loose	Tighten stem nuts
	Damaged stem seal surfaces	Replace stem
	Damaged stem seals	Replace stem seal or try with injection of sealant grease (trunnion mounted construction only)
Body seal leakage	Gasket damage	Replace gaskets
	Excessive Pressure or Temperature	Confirm working conditions are as per request
	Excessive load from piping system	Verify piping system architetture
Excessive valve noise	Error in valve sizing	Confirm valve sizing
	Not complete opening	Check Open/Close limits and settings
Fail in valve movement after electrical input (actuated valves)	solenoid valve fail	Confirm power supply Replace the solenoid
Fail in limit switch signal	Uncorrect settings	Check Open/Close settings
	Limit switch is broken	Replace limit switch
	Uncorrect power supply	Confirm working conditions are as per request

MAINTENANCE CARD

ALFA 10

ALFA 10 N - 10 NF - 10 H.P. - 103



* EXECUTION ONLY FOR DN 100 - 150 - DN 200

PREMISE regarding ball valves type ALFA 10. ALFA 11 and ALFA 103
ALFA ball valves type 10 - 10F - 10H.P. - 103 - 11 - 11F derive from a common design, therefore the maintenance card is shared by all six models.

REPLACEMENT INSTRUCTIONS FOR WORN OUT PARTS

1. Remove the valve from the pipe-system.
2. Clean the residual piping product from valve, especially if toxic or harmful.
3. Block the valve in a parallel-jaw vice.
4. Rotate the Ball in "closed position" by shifting the Lever (part n. 12).
5. Countersign the position of Shell-Ring nut, marking a reference line with a marking tool.
6. Unscrew and remove the Ring nut (part n. 3) from Shell with a pin spanner. Use a pin spanner from DN 10 to DN 125 and an hexagonal socket spanner from DN 150 to DN 200.
7. Raise and remove the Ring (part n. 2) with an extractor tool.
8. Remove the Ball (part n. 5) inspect its spherical surface and in case of furrows or damages, replace the Ball.
9. Raise and remove the two Seats (part n. 4) with an extractor tool. Clean the seats carefully and in case of furrows or damages replace them.
10. Unscrew and remove the Nuts (parts n. 11) from the driving Stem (part n. 6).
    Remove the Bushes (parts n. 7).
    Remove the Spring Washers (parts n. 10).
    Remove the Stem from inside. Inspect the worn out conditions of Stem, Bushes, etc., and replace the damaged ones.
11. Reassemble the Stem from inside and the other parts proceeding contrary to disassembly.
12. Place the Seats in their housing slots.
13. Insert the Ball into the valve Shell and cautiously accomplish a few manoeuvres to settle and assure the Ball rotation on its housing.
14. Place the Ring in position between Shell and Ring nut.
15. Screw the Ring nut onto Shell with a pin spanner or a socket spanner up to marked reference line.
16. Check the Ball rotation resistance. The power resistance has to be homogeneous during the "opening or closing" manoeuvre of the valve.

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Installation, Operating & Maintenance Instructions.

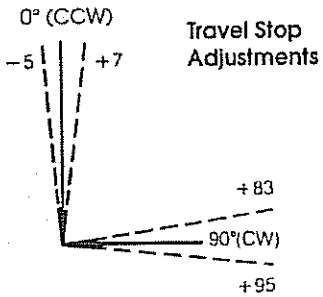
All actuators are factory lubricated for life, but still should be protected from the elements and stored indoors until ready for use. The ports of the actuator are plugged as supplied from the factory. In case the actuators are stored a long period before installation, it would be a good practice to stroke the actuators before mounting. Prior to assembly, check the mounting surfaces, the stem adaptor and the bracket to assure proper fit.

Manually open and close the valve to insure freeness of operation. Be sure the valve and actuator rotate in the same direction and are in the same position. Secure the valve with the stem vertical. Bolt the bracket to the valve and place the stem adaptor on the valve stem. Position the actuator over the valve and lower to engage the stem adaptor to the actuator shaft.

Continue to lower until the actuator seats on the bracket mounting surface. In order to align the bolt holes, it may be necessary to turn or stroke the actuator a few degrees and/or adjust the actuator travel stops. Bolt the actuator to the bracket.

After consulting the valve manufacturer's recommendations, adjust the travel stop bolts of the actuator for the proper open and closed valve positions. Pneumatically stroke the actuator several times to assure proper operation with no binding of the stem adaptor. If the actuator is equipped with limit switches or other accessories, adjust them at this time.

To prolong actuator life use only clean, dry plant air. Lubricated air is not required, however it is recommended particularly for high cycle applications. Do not use lubricated air with positioners.



Travel Stop Adjustments

Actuator	Endcap Screw Socket Size	Adjustment Bolt Socket Size	Spring Color Code
S050	4 mm	3 mm	White
S063	5 mm	4 mm	Light green
S085	6 mm	5 mm	Blue
S100	6 mm	6 mm	Red
S115	6 mm	6 mm	Yellow
S125	8 mm	6 mm	Grey
S150	8 mm	8 mm	Dark green
S175	10 mm	8 mm	Purple
S200	12 mm	8 mm	Orange

Travel Stop Adjustment (Patented)
Both Directions 5° Overtravel
12°Adjustment Each End

The **SuperNova** Series actuators have unique, patented travel stop adjustments in both clockwise and counterclockwise directions. The 10° total overtravel provides adjustments from –5° to +7° at the "0°" Counterclockwise position and from +83° to + 95° at the "90°" Clockwise position.

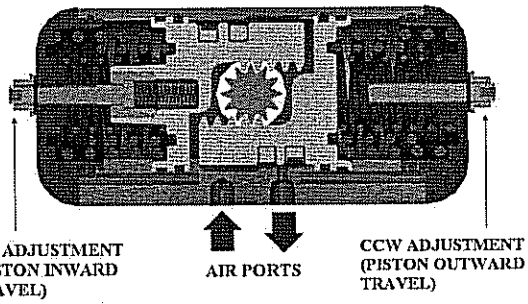
All actuated valves require accurate travel-stop adjustments at both ends of the stroke to obtain optimum performance and valve seat life. The accumulation of tolerances in the adaption of the actuators to valves is such that there must be a range of adjustment for both ends of the stroke to achieve the expected performance.

Ball and Plug Valves require precise adjustment at the open (CCW) position to protect the seat from the flow media and the closed (CW) position to assure absolute shut-off

Butterfly Valves require precise adjustment at the closed position to assure full shut-off, to prevent disc overtravel and damage to the seat at the closed position.

Tandem Valves, where two valves are operated in tandem through a single solenoid valve (eg. A 3-Way configuration), absolutely require precise adjustment at both ends of the stroke to assure the seating of both valves.

Sop adjustment and Locations



Adjustment Bolt Location

Actuator Type	Fail position	Clockwise (CW) closed	Counterclockwise (CCW) open
Double Acting		Left End Cap	Right End Cap
Spring Return	CW	Left End Cap	Right End Cap
Spring Return*	CCW*	Right End Cap	Left End Cap

*The pistons are rotated 180° for CCW fail position

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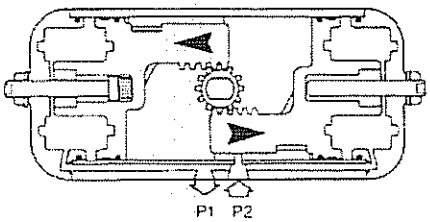
OPERATION

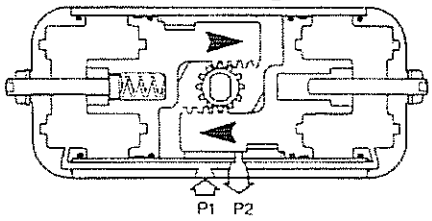
(As viewed from top of the actuator)

Double Acting

Applying air pressure to Port 2 drives the pistons outward, which turns the pinion counterclockwise as the air volume on the outside of the pistons exhausts through Port 1.

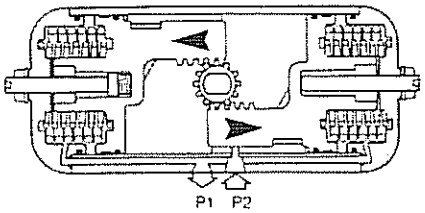


Applying air pressure to Port 1 drives the pistons inward, which turns the pinion clockwise as the air volume on the inside of the pistons exhausts through Port 2.

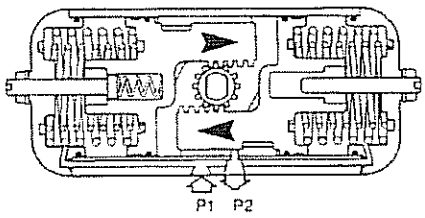


Spring return (Fail CW)

Applying air pressure to Port 2 drives the pistons outward, which compresses the springs and turns the pinion counterclockwise as the air volume on the outside of the pistons exhausts through Port 1.

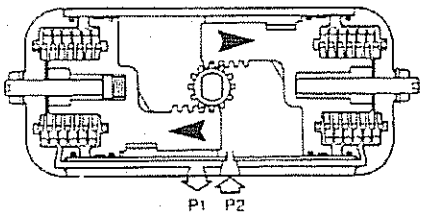


Exhausting the air pressure from Port 2 allows stored energy of the springs to drive pistons inward, turning the pinion clockwise. Air volume on outside of pistons vents through Port 1.

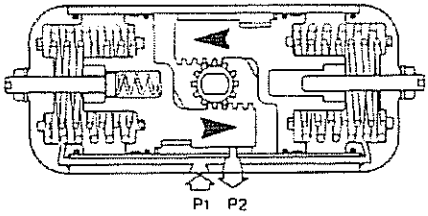


Spring Return (Fail CCW)

Applying air pressure to Port 2 drives the pistons outward, which compresses the springs and turns the pinion clockwise as the air volume on the outside of the pistons exhausts through Port 1.



Exhausting the air pressure from port P2 allows stored energy of the spring to drive pistons inward, turning the pinion counterclockwise. Air volume on outside of pistons vents through Port 1.



Changing direction of pinion rotation (CW to CCW)

The SuperNova series actuators are normally assembled as Double Acting or Spring Return Fail CW (spring action turns pinion clockwise).
To assembly the actuator on Spring Return Fail CCW (spring action turns pinion counterclockwise):

1. Follow disassembly procedures (next page) from point #1 through #8.
2. Rotate both pistons 180° around their axis: left piston rack must be on air supply ports side, right pinion on the opposite side (see Spring Return CCW drawing).
3. Follow reassembly procedures.

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20032 Cormano (Milano)
Italy

Cap.Soc 55.049.414 € int. vers.
Reg. Imp. Milano 336904 - r.e.a. 1423580
Part. I.V.A 10979380150
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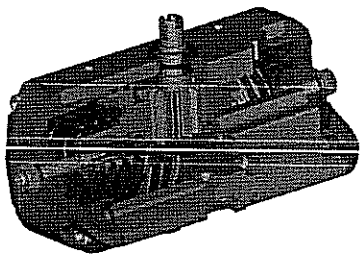
MAINTENANCE INSTRUCTIONS
Disassembly Procedures

1. Disconnect all air and electrical supplies from actuator.
2. Remove all accessories from actuator and dismount actuator from valve.
3. Position actuator with air supply ports facing you. Apply air pressure to Port 2 to release spring pressure from the Stop Bolt (9).
4. Remove the Stop Bolt Retaining Nut (14), Washer (15), and O-ring (16) on the left Endcap (19) and turn the Stop Bolt (9) clockwise into the Body (1) until it is flush with the Endcap (19).
5. Exhaust air from Port 2, the Stop Bolt (9) should now turn freely. Continue turning Stop Bolt (9) clockwise until it is disengaged from the Endcap.
6. **S Spring Return Actuator:**
   CAUTION: Follow step 4 to relieve force on inward travel stop before proceeding.
   To remove S Endcaps, first completely remove two diagonal Endcap Screws (21) from one Endcap. The two remaining Encap Screws should be removed evenly. As the screws are removed, the springs will push the Endcap out. Repeat for opposite side. The springs well be totally unloaded before the screws are completely unthreaded.
   Remove the springs (23, 24, 25).



Spring return version

D Double Acting Actuator:
Remove the 8 Endcap Screws (21). Step 7 will push the Endcaps (18, 19) from the Body (1).

7. Rotate Pinion (3) counterclockwise (D & S-FCW) or clockwise (D & S-FCCW) to drive the Pistons (2) off the end of the rack. Pull the Left Piston (2) from the body (1) by pulling on the Stop Bolt (9).
8. Remove the Right Piston (2a) by pushing out through inside of Body (1).
9. Remove the Snap Ring (5) Steel Pinion Washer (4a) and Pinion Washer (4).
10. Tap Pinion (3) lightly with plastic mallet to remove.
11. Remove seals from pinion, endcaps, and piston. If necessary, remove seal from top pinion bearing.
12. Top pinion bearing (26) is a light press fit into the housing. To remove, press out towards the bottom of the actuator body. Take care not to damage any of the surfaces. Bottom pinion bearing (27) is split. To remove, find split in bearing and spread apart just enough to fit over bottom pinion.

Reassembly Procedures

1. Inspect all parts for wear and replace any worn parts as needed. Replace all O-rings.
2. Clean all components and lightly grease cylinder bore, pinion and seals with a multi-purpose "polymer" fortified grease such as DuBois Chemicals MPG-2.
3. Reverse the disassembly procedures to reassemble.
4. If top pinion bearing (26) was removed, it must be pressed back into place. The top edge of the bearing must be even with the top of the body. Insert top pinion bearing seal (28) into place, pressing down with a blunt screwdriver or similar tool, taking acre not to damage the seals.
5. The standard Pinion (3) orientation is with the top accessory drive slot at 90° to the Body (1) in the 0° position.
6. When fitting the Pistons (2 and 2a) ensure the teeth engage the Pinion (3) at the same time by measuring in from each end. Note: the orientation of the pistons will determine the operation of the actuator. Refer to the diagrams under "Operation" for correct piston position.
7. Test the actuator for smooth operation and air leakage at service pressure before reinstalling.

Changing Number of Springs

1. Follow the Disassembly Procedures through step 6
2. Determine nested spring combination of inner, middle and outer spring. Consult catalog torque charts. Insert appropriate spring according to the attached chart into cylinder. Springs must be properly seated against piston and endcap to assure that springs do not bind.
3. Re-assemble the actuator.

Spring chart models 63-200

Spring Group	Spring Combination 1			Standard Configuration (Air Supply)
	#1 Spring (inner)	#2 Spring (middle)	#3 Spring (outer)	
S04	-	2	-	
S05	-	1	1	3 bar
S06	-	-	2	
S07	1	-	2	4 bar
S08	2	-	2	5 bar
S09	1	1	2	
S10	-	2	2	5,5 bar
S11	1	2	2	
S12	2	2	2	

Spring chart model 50

Spring Group	Spring Combination 1			Standard Configuration (Air Supply)
	#1 Spring (inner)	#2 Spring (middle)	#3 Spring (outer)	
S04	1	1	-	
S05	-	2	-	3 bar
S06	2	1	-	4 bar
S07	1	2	-	5 bar
S08	2	2	-	5,5 bar
S09	2	-	2	

Notes:
#1 Spring has one color code dot
#2 Spring has two color code dots
#3 Spring has three color code dots
S050 has maximum of 2 springs per endcap

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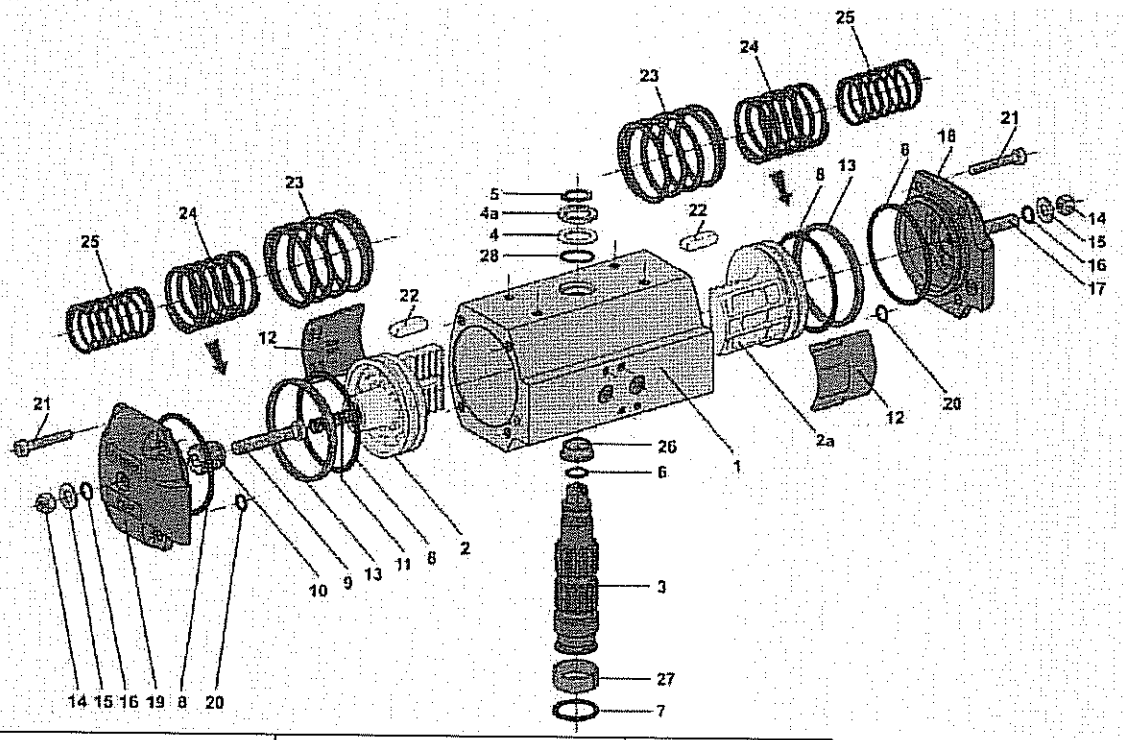
PARTS & MATERIALS



ITEM No.	DESCRIPTION	STANDARD MATERIAL	Quantity	
			D	S
1	Body	Hard Anodized Aluminum	1	1
2	Left Piston	Die Cast Aluminum	1	1
2a	Right Piston	Die Cast Aluminum	1	1
3	Pinion	Nitride Coated Steel	1	1
4*	Pinion Washer	Nylon	1	1
4a*	Steel Pinion Washer	Stainless Steel	1	1
5*	Pinion Snap Ring	Steel/Plated	1	1
6*	Upper pinion O-ring	Nitrile Rubber	1	1
7*	Lower pinion O-ring	Nitrile Rubber	1	1
8*	Piston and end cap O-ring	Nitrile Rubber	4	4
9	Inward travel stop bolt	Stainless Steel	1	1
10	Inward travel retaining nut	Stainless Steel	1	1
11	Inward travel spring	Steel/Plated	1	1
12*	Piston guide	Nylon and Molybdenum Disulfide	2	2
13*	Piston guide band	Nylon and Molybdenum Disulfide	2	2
14	Stop bolt retaining nut	Stainless Steel	2	2
15	Stop bolt washer	Stainless Steel	2	2
16*	Stop bolt O-ring	Nitrile Rubber	2	2
17	Stop bolt	Stainless Steel	1	1
18	Right end cap	Die Cast Aluminum/Electrostatic Poly	1	1
19	Left end cap	Die Cast Aluminum/Electrostatic Poly	1	1
20*	End cap supply O-ring	Nitrile Rubber	2	2
21	End cap screw	Stainless Steel	8	8
22	Anti ejection device (optional)	Nylon	2	2
23	Outer spring	Spring Steel Coated	0	2 max
24	Middle spring	Spring Steel Coated	0	2 max
25	Inner spring	Spring Steel Coated	0	2 max
26*	Top pinion bearing	Hard Anodized Aluminum	1	1
27*	Bottom pinion bearing	PEEK	1	1
28*	Top bearing O-ring	Nitrile Rubber	1	1

NOTES:

D= double acting actuators
S= spring return actuators
* parts included in a Repair Kit

SEALS:

Standard - Nitrile:
-30°C ÷ +80°C (-20°F ÷ +175°F)

H= High temp. – Viton:
-30°C ÷ +150°C (-22°F ÷ +302°F)

L= Low temp. – Fluorosilicon:
-50°C ÷ +80°C (-58°F ÷ + 176°F)

PRESSURE RATING:
10 bar (150 psi) max

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W SERIES SWITCHBOX

Watertight protection

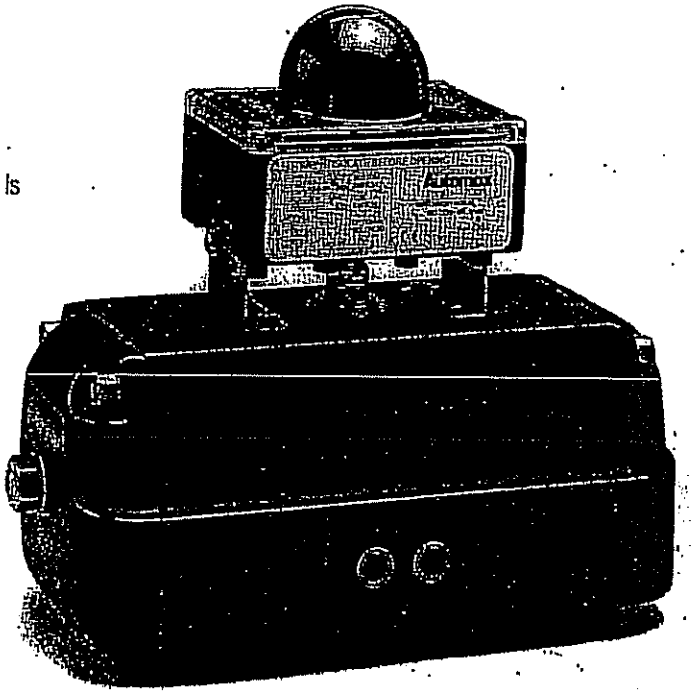
IEC 529 IP66 / IP67

New W series switchbox is designed to be directly and easily mounted onto actuators having connections according to Namur VDE 3845, in order to reduce switchbox/actuator overall dimensions.

Features

- **Quick-set cams**

  Tool free adjustment of switch trip is accomplished simply by pushing or pulling the cam and rotating it to the new position. Cams are spring-loaded and splined to maintain switch setting in any installed position.



- **Limit switches**

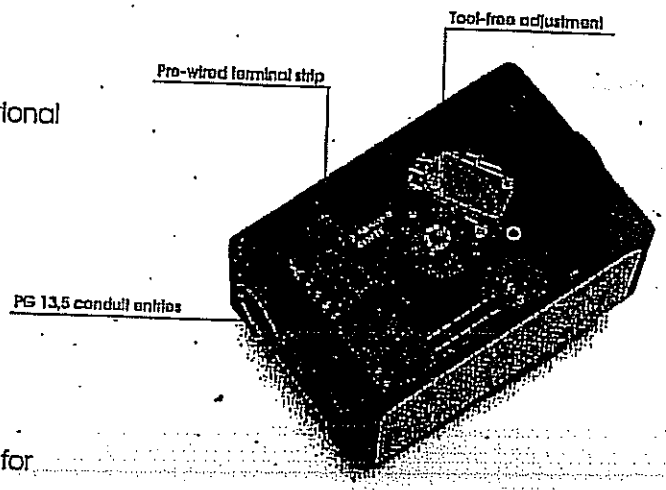
  Multiple options available: electromechanical, amplified proximity, Namur proximity.

- **Cable entries**

  Double hole std. (WDB). Triple hole optional (WDC).

- **Terminal strip**

  Pre-wired on printed circuit board. Extra terminal strip included for optional solenoid valve.



- **Position indicator**

  Available with three different covers and position indicators: flat, Pharos™ or metallic. .

- **Captive Cover Screws**

  permit calibration without potential for losing screws.

FLOWSERVE

FLOW CONTROL DIVISION

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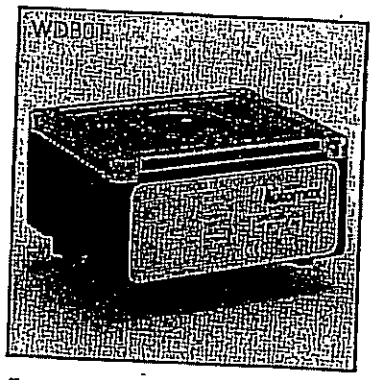
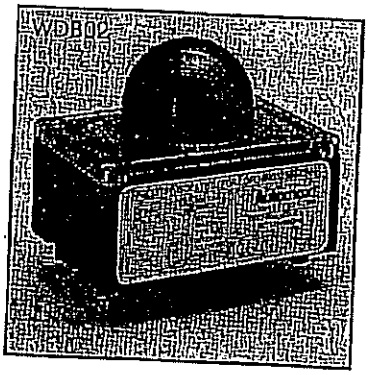
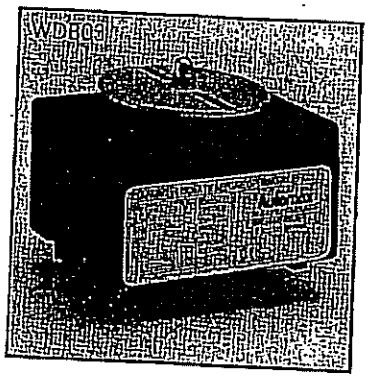
ENCLOSURE OPTIONS



Features
- anodized aluminium body
- flat polycarbonate cover
- yellow double-arrow position indicator



Features
- anodized aluminium body
- polycarbonate cover
- red and green MINIPHAROS position indicator



Features
- anodized aluminium body and cover
- aluminium disk position indicator

SWITCH OPTIONS

Electromechanical switches

Switch type	Switch characteristics	Q.ty	Box part number (**=01 02 03)
V5	SPDT max 10A 250VAC	2	WDB**01201

Namur proximity switches (intrinsically safe)

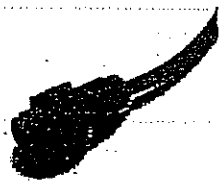
Switch type	Switch characteristics	Q.ty	Box part number (**=01 02 03)
P+F NJ4-12GK-N	cylindrical proximity 2 wires not amplified Namur EExia IIC certified	1	WDB**06101
		2	WDB**06201

Switch type	Switch characteristics	Q.ty	Box part number (**=01 02 03)
P+F SJ-3,5-N	slot proximity 2 wires not amplified Namur EExia IIC certified	1	WDB**21101
		2	WDB**21201

Switch type	Switch characteristics	Q.ty	Box part number (**=01 02 03)
P+F NJ2-V3-N	V3 proximity 2 wires not amplified Namur EExia IIC certified	1	WDB**18101
		2	WDB**18201

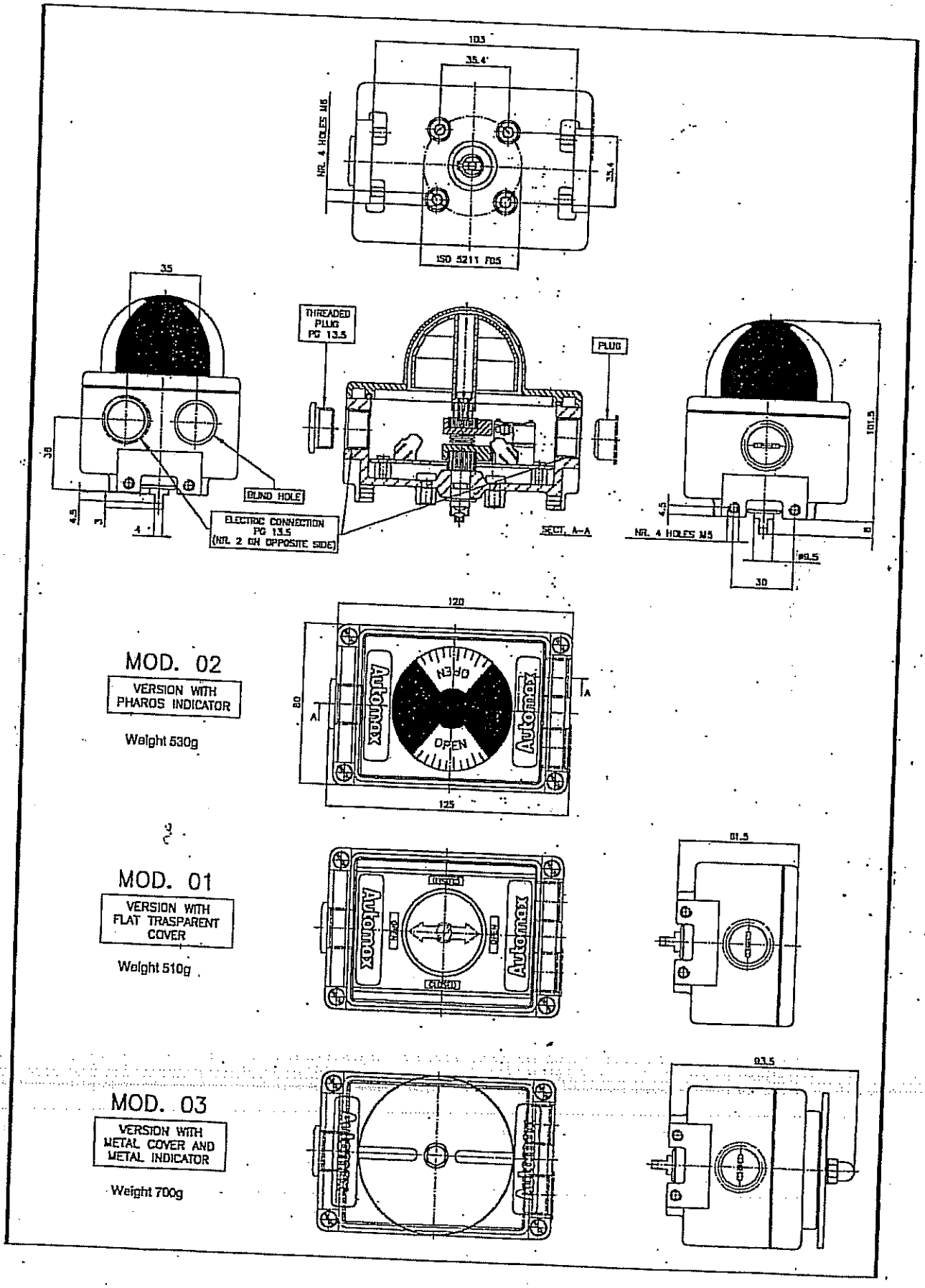
Amplified proximity switches

Switch type	Switch characteristics	Q.ty	Box part number (**=01 02 03)
P+F NJ4-12GM40-E	cylindrical proximity, 3 wires NPN n.o. supply voltage 10-60 VDC	2	WDB**37201
P+F NJ4-12GM40-E2	cylindrical proximity, 3 wires PNP n.o. supply voltage 10-60 VDC	2	WDB**38201

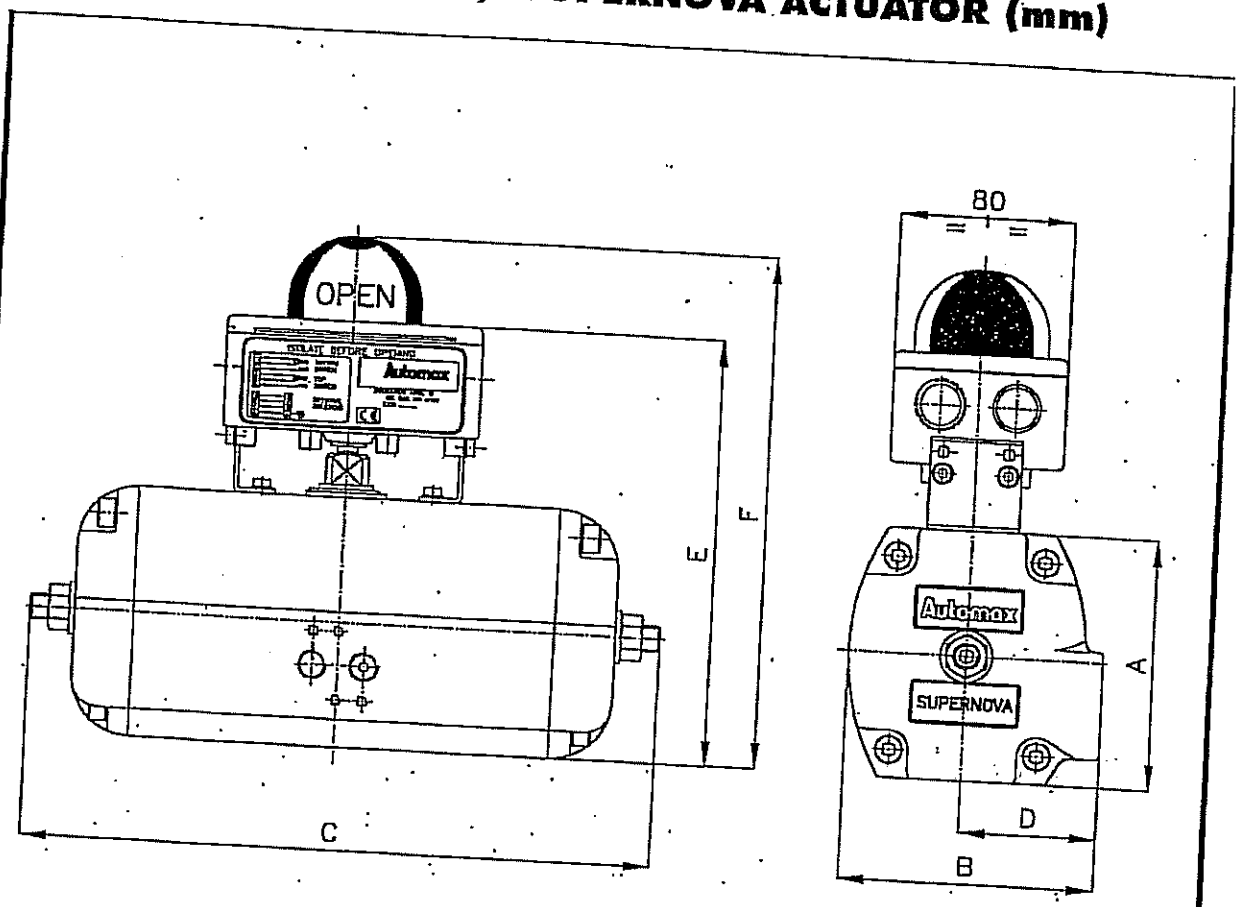


* Other switch options are available on request

DIMENSIONS (mm)



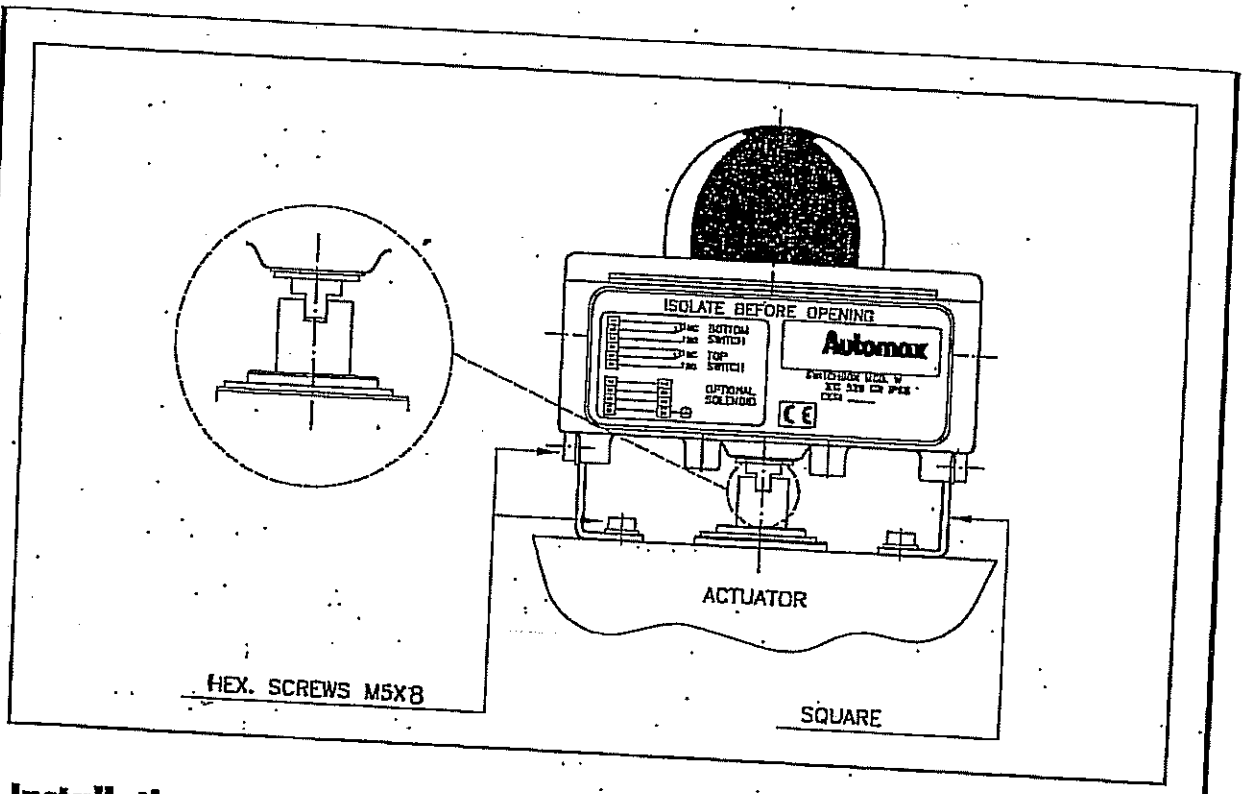
OVERALL DIMENSIONS
W SERIES SWITCHBOX / SUPERNOVA ACTUATOR (mm)



ACTUATOR	A	B	C	D	E	F	Mounting Kit* PN
S050	65	69	170	40	148	188	KL 01 Weight 50g
S063	78	80.5	202	45	161	201	
S085	100	104.5	250	57	183	223	
S100	116	118	296	63	199	239	
S115	131	136.5	342	74	224	264	
S125	142	146	402	78	235	275	
S150	168	169	486	88	261	301	
S175	200	201	542	106	293	333	
S200	230	228	620	120	323	363	
S250	280	305	654	165	393	433	KL 02 Weight 70g
S300	340	365	788	195	453	493	

* Nr. 2 squares + Nr. 2 screws

INSTALLATION, OPERATING AND MAINTENANCE INSTRUCTIONS



Installation

W series switchbox is mounted onto the actuator using 2 squares fixed each one to the box with 2 M5x8 hexagonal head screws and connected to the actuator with 2 M5x8 hexagonal head screws.
During assembly pay attention that tongue fit perfectly the pinion slot.

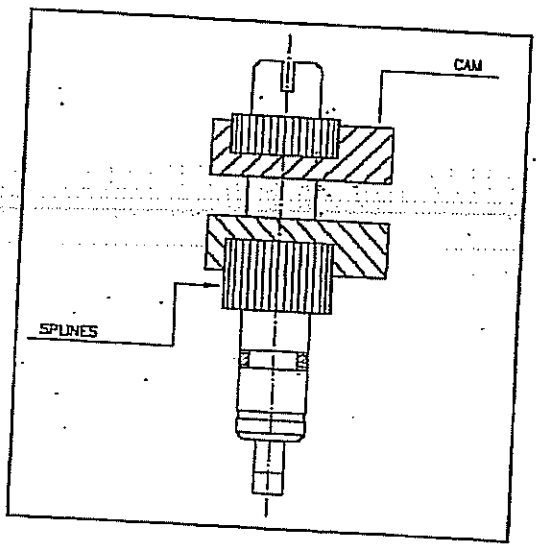
Wiring instructions

Remove the cover after unscrewing the 4 screws.
Remove the plugs from the cable entries and substitute them with adequate cable glands to ensure a watertight seal.
A wiring diagram is printed on the nameplate. Follow it carefully for the right connection to your system. Size the cables according to the application and be sure to ground at ground terminal provided. Solenoids may also be wired through the switch enclosure.

Adjusting limit switches

Make the actuator/valve system rotate CW, then adjust as follows:

1. Pull the BOTTOM cam to disengage it from splines, then rotate it CW just until switch trips. Reengage the cam with splines.
2. Make the actuator/valve system rotate CCW.
3. Push the TOP cam to disengage it from splines, then rotate it CCW just until switch trips. Reengage the cam with splines.



WARNING: disconnect power before removing cover

ASCO	Istruzioni per la messa in funzione e la manutenzione degli ELETTRODISTRIBUTORE SERIE 551 (corpo in alluminio) con piano di posa NAMUR	3/2 o 5/2	IT

DESCRIZIONE

Elettrodistributore a cassetto 3/2 o 5/2, serie 551, corpo in alluminio trattato, con piano di posa secondo le raccomandazioni NAMUR per il montaggio diretto sull'attuatore pneumatico a semplice effetto (funzione 3/2 NC) o doppio effetto (funzione 5/2). Lo stesso elettrodistributore si adatta alle due funzioni inserendo sulla parte inferiore una delle due piastre interfaccia 3/2 NC o 5/2 (fig. 3, rif. 1).

Gli elettrodistributori 551 NAMUR possono essere dotati di teste magnetiche stagne IP65 o certificate per atmosfere pericolose EEx d, m, em, ia o a basso consumo elettrico.

Tutte le connessioni di scarico sono canalizzate, assicurano un ottima protezione verso l'ambiente e sono raccomandate per installazioni in zone critiche come sale bianche, industrie farmaceutiche o agro-alimentari.

E' necessario canalizzare o equipaggiare gli scarichi per proteggere i componenti interni del distributore e dell'attuatore pneumatico in caso di utilizzo esterno o in ambiente critico (polveri, liquidi o altri agenti).

Le camere degli attuatori a semplice effetto (lato molle) sono completamente isolate dall'atmosfera attraverso il distributore.

Versioni disponibili (fig. 1):

- Distributore monostabile : comando elettrico, ritorno a molla.
- Distributore bistabile : comando e ritorno elettropneumatici.

MONTAGGIO

Questi elettrodistributori sono studiati per i campi di funzionamento indicati sulla targhetta. Qualsiasi modifica sul materiale necessita del preventivo consenso da parte del fabbricante o del suo rappresentante.

Questi elettrodistributori sono stati studiati per il funzionamento su aria o gas neutri filtrati. Non superare la pressione massima ammessa = 10 bar. La messa in funzione e la manutenzione di questi prodotti vanno effettuate da personale specializzato.

Questi elettrodistributori possono essere montati in qualsiasi posizione. Per le versioni con piloti 192 (NK, PV, EK) e 195 (ISSC), rispettare la posizione di montaggio dei piloti indicata sulle figure 5 e 6.

Prima di montare il distributore sull'attuatore, adattare il componente alla funzione scelta :

- Selezionare la piastra interfaccia sulla funzione desiderata 3/2 NC o 5/2 (fig. 3, rif.1a o 1b).
- Verificare la presenza e l'inserimento corretto della guarnizione-sagomata (fig. 3, rif.7)
- Assemblare piastra e distributore con le 2 viti (fig. 3, rif.6) fornite, rispettando il senso di montaggio: il riferimento della funzione deve essere posizionato lato ritorno (spina di riferimento)
- Montare le due guarnizioni OR (fig. 3, rif.9).
- Posizionare, se necessario, la spina di riferimento sull'attuatore:
  - Sulla piastra 3/2, la spina di riferimento Ø 5 è situata in A1 (fig. 3)
  - Sulla piastra 5/2, la spina di riferimento Ø 5 è situata in A2 (fig. 3)

I distributori si possono montare in qualsiasi posizione.

CONNESSIONE PNEUMATICA

- **Connessione dell'elettrodistributore** (fig. 3)

  Raccordare le tubazioni in funzione dei riferimenti indicati sulla targhetta.

  - **Funzione 3/2 NC:** Arrivo della pressione tramite il raccordo 1, filettato 1/4. Scarico tramite il raccordo 3 (1/8). Lo scarico dalle camere delle molle di ritorno dell'attuatore a semplice effetto è canalizzato attraverso il distributore verso la connessione 3 raccordabile. Si raccomanda di non tappare la connessione 5 (se non utilizzata).
  - **Funzione 5/2** : Arrivo della pressione 1, filettato 1/4. Gli scarichi dell'attuatore sono canalizzati attraverso il distributore verso le connessioni 3 e 5 raccordabili 1/8.

- **Connessione dei regolatori di scarico**

  A richiesta, gli elettrodistributori sono forniti senza o con riduttori di scarico miniaturizzati 1/8 (fig. 2).

  Questi miniregolatori di scarico regolabili consentono di regolare la velocità di manovra dell'attuatore e sono anche raccordabili (filettatura 1/8) per la canalizzazione degli scarichi.

  Montaggio / Regolazione (fig. 3) :

  Versione 3/2 NC = 1 regolatore da montare sulla connessione 3
  Versione 5/2 = 2 regolatori da montare sulle connessioni 3 e 5

  Serrare nella connessione la vite (3) del riduttore fino all'arresto, poi svitare per aumentare la portata dello scarico senza mai superare 2 giri (portata max ottenuta a partire da 1 giro).

  Bloccare il controdado (4) con una chiave fissa da 13 mm.

  La regolazione deve essere effettuata fuori pressione e va affinata al momento delle prove sotto pressione.

- **Connessione degli scarichi del pilota**

  Possibilità di raccogliere gli scarichi della versione con pilota integrato (fig. 3) :

  - Togliere il cappuccio di plastica di protezione (6)
  - Collegare la connessione di scarico OM5 (5).

  Il comando manuale, indicato con il simbolo (⌖) fig. 4 ÷ 6, permette il funzionamento senza tensione.

- **Raccommandazioni generali per il raccordo pneumatico**

  Collegare le tubazioni secondo le funzioni desiderate tenendo conto dei riferimenti di raccordo indicati sul prodotto e in questa documentazione.

  Assicurarsi che nel circuito non entrino corpi estranei.

  Sostenere e allineare correttamente le tubazioni per evitare sollecitazioni meccaniche sul distributore. Evitare di usare l'attrezzo di serraggio come leva. Posizionare le chiavi di serraggio il più possibile vicino al punto di raccordo. Per evitare il rischio di danni, NON STRINGERE TROPPO i raccordi delle tubazioni.

RACCORDO ELETTRICO

- **Elettrovalvole pilota / teste magnetiche**

  Versione stagna IP65, pilota integrato (fig. 3) : montare la bobina sul cannotto (orientabile a 360°), poi il connettore disinnestabile CM9 (Pg 9P), orientabile a 180° (3 morsetti : 2 + massa).

- **Raccomandazioni generali per il raccordo elettrico**

  Il raccordo elettrico deve essere eseguito da personale qualificato e secondo le norme e i regolamenti vigenti.

  Attenzione :

  - Prima di qualsiasi intervento, staccare la corrente elettrica per togliere tensione ai componenti.
  - A seconda della tensione, i componenti elettrici devono essere messi a terra in conformità alle norme e ai regolamenti locali.

  La maggior parte degli elettrodistributori prevede bobine per la messa in tensione permanente. Per evitare bruciature, non toccare la testa magnetica che, in funzionamento normale e sotto tensione, può raggiungere temperature elevate. Nel caso in cui l'elettrovalvola sia facilmente accessibile, l'installatore deve prevedere una protezione della testa magnetica.

MANUTENZIONE

⚠ **Prima di qualsiasi intervento di manutenzione o di rimessa in funzione, staccare la corrente dall'elettrodistributore, depressurizzare e pulire, per evitare il rischio di danni alla persona e al materiale.**

- **Pulizia**

  La manutenzione degli elettrodistributori varia a seconda delle loro condizioni di utilizzo. Se necessario, procedere ad una pulizia periodica. Al momento dell'intervento, i componenti devono essere esaminati al fine di rilevare un'eventuale eccessiva usura. E' necessario procedere alla pulizia nel caso in cui si osservi un rallentamento della velocità quando la pressione di pilotaggio è corretta o si verifichi un rumore anomalo.

- **Rumore di funzionamento**

  L'utilizzatore potrà stabilire con precisione il livello di rumorosità soltanto dopo aver montato il componente sull'impianto. Il rumore di funzionamento varia a seconda dell'utilizzo, del fluido e del tipo di materiale.

- **Manutenzione preventiva**

  - Far funzionare l'elettrodistributore almeno una volta al mese per verificarne l'apertura e la chiusura.
  - In caso di problemi durante il montaggio o la manutenzione o in caso di dubbio, contattare ASCO/JOUCOMATIC o i suoi rappresentanti ufficiali.

- **Consigli per la riparazione**

  - Pressione di uscita non corretta : Verificare la pressione all'entrata dell'elettrodistributore; deve corrispondere ai valori ammessi indicati sulla targhetta di identificazione.

  Attenzione, rispettare i valori minimi di pressione di pilotaggio : 2 bar.

  Per evitare il rischio di danni alla persona o al materiale, prima di rimettere in funzione l'elettrodistributore, verificarne il corretto funzionamento.

- **Ricambi**

  Sono disponibili bobine di ricambio. Se necessario, effettuare la completa sostituzione dell'elettrodistributore.

In conformità alla direttiva CEE 89/392/CEE Allegato II B, su richiesta potrà essere fornita una Dichiarazione di Incorporazione. Vi preghiamo di indicarci il numero della conferma d'ordine (AR) e i riferimenti o i codici dei relativi prodotti.

Questo prodotto è conforme ai requisiti essenziali stabiliti dalla Direttiva 89/336/CEE sulla Compatibilità Elettromagnetica e successive modifiche nonché alle direttive Bassa Tensione 73/23/CEE + 93/68/CEE. Su semplice richiesta potrà essere fornita una dichiarazione di conformità.

ASCO	Installation and maintenance instructions SERIES 551 SPOOL VALVES (aluminium body) with NAMUR interface	3/2 or 5/2	GB

DESCRIPTION

The Series 551 3/2 NC or 5/2 spool type valves have a specially-treated aluminium body with a mounting surface as per NAMUR recommendations for direct installation of a single-acting (3/2 NC function) or double-acting spool (5/2 function). The same type of solenoid valve can accomodate both types of operator by internally installing the 3/2 NC or 5/2 interface plates supplied (fig. 3, rep. 1).
Series 551 NAMUR spool valves can be equipped with solenoids to IP65, solenoids certified for potentially explosive atmospheres (EEx d, m, em, ia) or solenoids of the low electrical power consumption type.
All the exhaust ports of this spool valve are pipable, providing better environmental protection, particularly recommended for sensitive areas such as white rooms, and applications in the pharmaceutical and food processing sectors.
It is necessary to connect pipes or fittings to the exhaust ports to protect the internal parts of the spool valve and its pneumatic operator if used outside or in harsh environments (dust, liquids etc.)
The return-spring chambers of the single-acting operators "breath" through the spool valve, isolating them from the outside atmosphereVersions available (fig. 1):
- Monostable valves: electric-operated, spring return.
- Bistable valves: solenoid-air operated and return.

INSTALLATION

Valves are designed to be operated within the technical characteristics specified on the nameplate. Modifications to the products may only be made after consulting the manufacturer or his representative.
These valves are designed to operate with filtered neutral gas or air. Do not exceed the maximum allowable pressure of the valve = 10 bar. Installation and maintenance of the valve must be carried out by qualified personnel only.
For the versions with pilots 192 (NK, PV, EK) and 195 (ISSC), follow the pilot mounting position as shown in figures 5 and 6.
Before mounting the spool valve on the operator, it must be set to the required function :
- Select the interface which corresponds to the required function : 3/2 NC or 5/2 (fig. 3, 1a or 1b).
- Make sure the seal is properly fitted (fig. 3, rep.7)
- Assemble the interface under the spool valve with the 2 screws supplied (fig. 3, rep.8). Make sure the indication of the function is placed on the return side (polarizing slot).
- Fit the two O-rings (fig. 3, rep.9).
- If necessary, fit the dowel pin on the operator:
  - On the 3/2 NC function plate: the Ø 5 dia. hole is at A1 (fig. 3).
  - On the 5/2 function plate: the Ø 5 dia. hole is at A2 (fig. 3).

These valves can be installed in any position.

PNEUMATIC CONNECTION

- **Connection of the spool valve** (fig. 3)
  Connect pipes in accordance with the indications on the nameplate.
  - **3/2 NC function:** Pressure at Port 1, 1/4". Exhaust Port 3, 1/8". Exhaust from the return operator spring chambers in the single-acting version is channelled through the valve to Port 3 1/8". It is recommended to protect Port 5 (if not used), **don't stop up it.**
  - **5/2 function:** Pressure at 1, 1/4". The operator exhausts are channelled through the valve to connectable ports 3 and 5, 1/8".
- **Connection of exhaust reducers**
  Valves may be supplied with 1/8" miniature exhaust reducers as ordered. These adjustable exhaust mini-reducers can be used to vary the operating speed of the spool. These are also connectable (1/8") for collecting the exhausts air (fig. 2).
  Installation / Adjustment (fig. 3):
  3/2 NC version = 1 reducer fitted to Port 3
  5/2 version = 2 reducers, fitted to Ports 3 and 5
  Engage the screw (3) in the opening in the reducer until it steps at the bottom, then unscrew it to increase the exhaust flow (never more than two turns, maximum flow obtained at one turn).
  Tighten the locknut (4) with a 13 mm wrench.
  Make rough adjustment before pressurising and correct after pressurising.
- **Connection of pilot exhausts**
  It may be possible to connect the exhausts of the integral pilot version (fig. 3):
  - Remove the plastic protective cover (6)
  - Connect the M5 exhaust port (5).

The manual operator, indicated by the symbol (▫) in fig. 4 to 6, allow operation of the valve when unenergised .
- **General recommendations concerning pneumatic connection**
  Connect pipes for required functions in accordance with this documentation and the port markings on the valve.
  Make sure that no foreign matter enters the system.
  Correctly support and align the pipes to avoid subjecting the valve to mechanical stress. When tightening, avoid using the valve as a lever. Use proper tools and locate wrenches as close as possible to the connection point. To avoid damage of the equipment, DO NOT OVERTIGHTEN pipe connections.

ELECTRICAL CONNECTION

- **Solenoid-air pilot valves / solenoids**
  IP65 sealed version with integral pilot (fig. 3): Fit the coil on the tube (rotatable through 360°), then DM8 spade terminal connector (Pg 9P), rotatable by 180° increments (3 pin: 2 + earth).
- **General recommendation for electrical connection**
  Electrical connections are only to be made by trained personnel and in accordance with the applicable regulations or standards.
  Caution:
  - Before work, switch off the electrical power supply to de-energise all components.
  - Depending upon the voltage, electrical components must be provided with an earth connection and satisfy local regulations or standards.

Most valves are equipped with coils designed for continuous duty service. To avoid any possibility of damage or injury, do not touch the solenoid, which can become hot under normal operating conditions. If the solenoid valve is easily accessible, the installer must provide protection against accidental contact.

MAINTENANCE

⚠ **Prior to any maintenance work or putting into operation, cut-off the supply to the pilot, depressurise the valve and vent it in order to prevent injury or damage.**

- **Cleaning**
  Maintenance of the valves depends on the operating conditions. They shall be cleaned at regular intervals. During servicing, the components must be checked for excessive wear. The valves must be checked when a slowing down of the cycle is noticed although the pilot pressure is correct or if any unusual noise or a leak is detected.
- **Sound emission**
  The emission of sound depends on the application, medium and nature of the equipment used. The exact determination of the sound level can only be carried out by the user having the valve installed in his system.
- **Preventive maintenance**
  - Operate the valve at least once a month to check function.
  - Should any difficulties or questions arise during installation and maintenance, please contact ASCO/JOUCOMATIC or their authorised representatives.
- **Troubleshooting**
  - Wrong exhaust pressure: Check the pressure on the supply side of the valve, it must correspond to the values indicated on the nameplate.

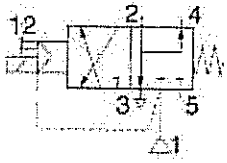
  Caution, observe the minimum pilot pressure values: 2 bar
  To avoid any risk of damage or injury, check that the valve operates correctly before putting it back into service.
- **Spare parts**
  Coils are available as spare parts. If necessary, change the entire valve.

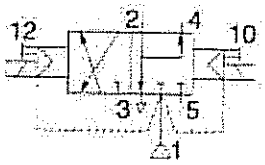
A separate Declaration of Incorporation relating to EEC directive 89/392/EEC Annexe II B is available on request. Please provide acknowledgement number and serial number of products concerned. This product complies with the essential requirements of the EMC-Directive 89/336/EEC, and amendments as well as the 73/23/EEC + 93/68/EEC Low Voltage Directives. A separate Declaration of Conformity is available on request.

AJF / AJL 389 45 20

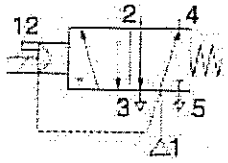
ASCO	RACORDAJE SEGÚN FUNCIONES	ES	CONNESSIONE SECONDO LE FUNZIONI	IT	AANSLUITING VOLGENS WERKING	NL

3/2 NC/NG





5/2



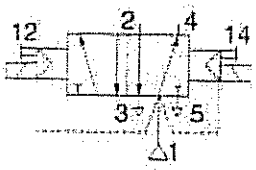


fig. 1

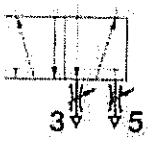
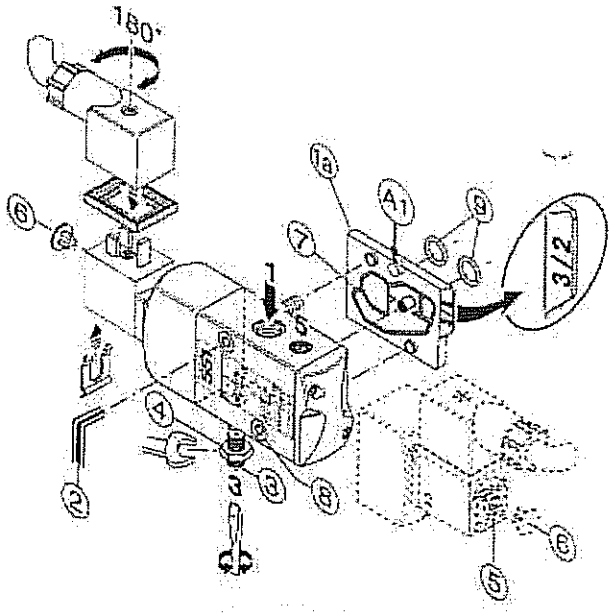
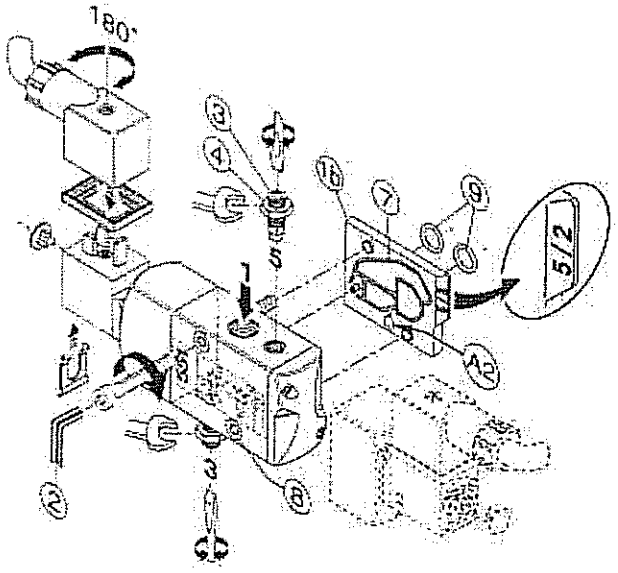


fig. 2

fig. 3





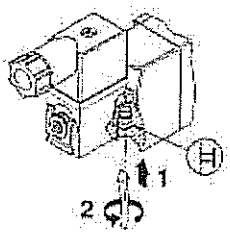


fig. 4

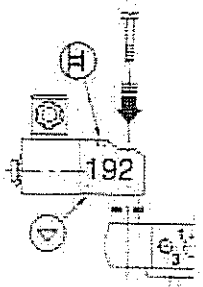


fig. 5

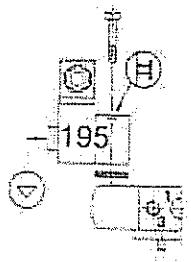


fig. 6