VALVOLE
Hofmann
by BONINO
Engineering

M9-2_M9-3 DN250-300

VALVOLA DI REGOLAZIONE PNEUMATICA A DUE E TRE VIE
TWO AND THREE WAY PNEUMATIC CONTROL VALVE DN250-300
VANNE DE RÉGLAGE PNEUMATIQUE A DEUX ET TROIS VOIES DN250-300
DN250-300 PNEUMATISCHES ZWEIWEGE- UND DREIWEGE-REGELVENTIL
VÁLVULA DE REGULACIÓN NEUMÁTICA CON DOS Y TRES VÍAS DN250-300

REV. 2305

M9-2 coefficienti di portata e dati relativi **M9-2 flow coefficients and related data** **Coefficients de débit M9-2 et données associées** **M9-2 Durchflusskoeffizienten und zugehörige Daten** **M9-2 coeficientes de flujo y datos relacionados**

TAB.01

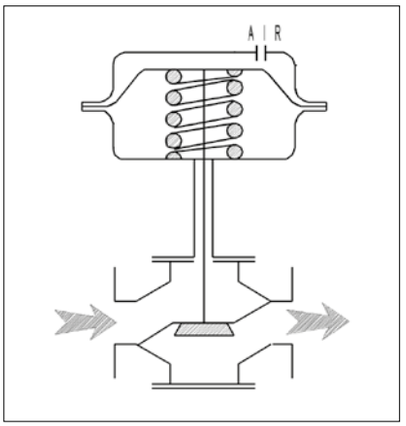
DN	KV	CV	SEGGIO SEAT Ømm	CORSA STROKE mm
250	1000	1170	240	75
300	1400	1638	290	95

FIG.01

Funzionamento: normalmente chiuso
Operation: normally closed

- Disponibili valvole con funzionamento normalmente aperto
- Valve with normally open operation are also available

N.B.:Su richiesta sono eseguibili valvole con KV ridotto
N.B.: Valve with reduced KV are available on request



M9-2 Max pressioni differenziali sotto otturatore (ΔP) flusso tendente ad aprire (versione NC) **M9-2 Max differential pressures under plug (ΔP) flow to open (NC operation)** **M9-2 Pressions différentielles max sous obturateur (ΔP) débit tendant à ouvrir (fonctionnement NF)** **M9-2 Max Differentialdruckunter Verschluß (ΔP) Flüssigkeitsdruck vor Öffnung (Arbeitsweise NG)** **M9-2 Presiones max diferenciales bajo obturador (ΔP) flujo tendente a abrir (funcionamiento NC)**

TAB.02

ΔP		ACTUATOR-TYPE N108	ACTUATOR-TYPE N216
		Ø520 mm	Ø520 mm double
DN	**signal**	**bar**	**bar**
250	1,5-2,7 bar	2	4
300	1,5-3,0 bar	1,2	2,4
DN	**signal**	**psi**	**psi**
250	21,75 - 39,16 psi	29	58
300	21,75 – 43,5 psi	17,4	34,8

FIG.02

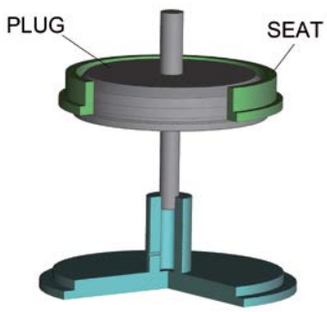
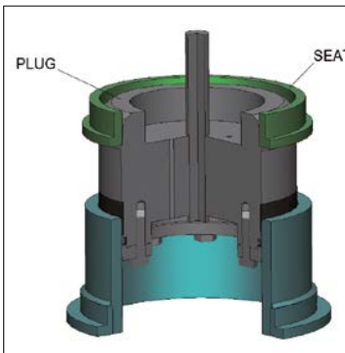


FIG.03



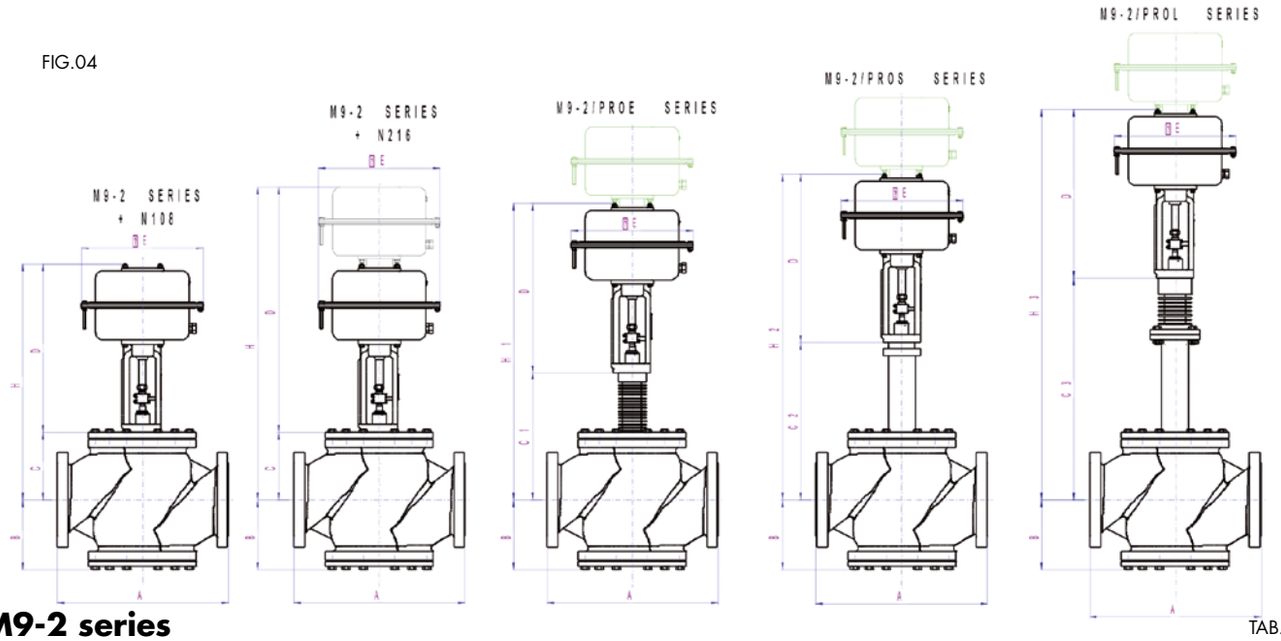
I valori riportati in tabella si riferiscono alle forze del servocomando, ma l'applicazione della valvola è limitata dal rating del corpo.

The values provided in the table refer to the strength of the servocontrol, but the application of the valve is limited to the rating of the body.

For higher Δp valve can be made with balanced plug

Tabella ingombri valvola SERIE M9-2 | **Valve overall dimensions M9-2 SERIES** | **Dimensions totales vanne M9-2 SERIE** | **Tabelle Maße M9-2 SERIE** | **Volúmenes válvula M9-2 SERIE**

FIG.04



M9-2 series

TAB.03

DN	ACTUATOR	A mm (inch)	B mm (inch)	C mm (inch)	D mm (inch)	E mm (inch)	H mm (inch)	ØV mm (inch)	HV mm (inch)
250	N108	730 (28,74)	298 (11,73)	285 (11,22)	719 (28,30)	520 (20,47)	1004 (39,52)	400 (15,74)	450 (17,71)
	N216				1071 (42,16)		1356 (53,38)	500 (19,68)	
300	N108	850 (33,46)	341 (13,42)	340 (13,38)	719 (28,30)	520 (20,47)	1059 (41,69)	400 (15,74)	450 (17,71)
	N216				1071 (42,16)		1411 (55,55)	500 (19,68)	

M9-2/PROE series

TAB.04

DN	ACTUATOR	A mm (inch)	B mm (inch)	C1 mm (inch)	D mm (inch)	E mm (inch)	H1 mm (inch)	ØV mm (inch)	HV mm (inch)
250	N108	730 (28,74)	298 (11,73)	542 (21,33)	719 (28,30)	520 (20,47)	1261 (49,64)	400 (15,74)	450 (17,71)
	N216				1071 (42,16)		1613 (63,50)	500 (19,68)	
300	N108	850 (33,46)	341 (13,42)	600 (23,62)	719 (28,30)	520 (20,47)	1319 (51,92)	400 (15,74)	450 (17,71)
	N216				1071 (42,16)		1671 (65,78)	500 (19,68)	

M9-2/PROS series

TAB.05

DN	ACTUATOR	A mm (inch)	B mm (inch)	C2 mm (inch)	D mm (inch)	E mm (inch)	H2 mm (inch)	ØV mm (inch)	HV mm (inch)
250	N108	730 (28,74)	298 (11,73)	668 (26,29)	719 (28,30)	520 (20,47)	1387 (54,60)	400 (15,74)	450 (17,71)
	N216				1071 (42,16)		1739 (68,46)	500 (19,68)	
300	N108	850 (33,46)	341 (13,42)	750 (29,52)	719 (28,30)	520 (20,47)	1469 (57,83)	400 (15,74)	450 (17,71)
	N216				1071 (42,16)		1821 (71,69)	500 (19,68)	

M9-2/PROL series

TAB.06

DN	ACTUATOR	A mm (inch)	B mm (inch)	C3 mm (inch)	D mm (inch)	E mm (inch)	H3 mm (inch)	ØV mm (inch)	HV mm (inch)
250	N108	730 (28,74)	298 (11,73)	807 (31,47)	719 (28,30)	520 (20,47)	1532 (59,75)	400 (15,74)	450 (17,71)
	N216				1071 (42,16)		1878 (73,63)	500 (19,68)	
300	N108	850 (33,46)	341 (13,42)	850 (33,15)	719 (28,30)	520 (20,47)	1560 (60,85)	400 (15,74)	450 (17,71)
	N216				1071 (42,16)		1921 (75,31)	500 (19,68)	

M9-3 coefficienti di portata e dati relativi | **M9-3 flow coefficients and related data** | **Coefficients de débit M9-3 et données associées** | **M9-3 Durchflusskoeffizienten und zugehörige Daten** | **M9-3 coeficientes de flujo y datos relacionados**

MIXING VALVE WITH MIXING PLUG

TAB.07

DN	KV STRAIGHT WAY A-AB	KV ANGLE WAY B-AB	CV STRAIGHT WAY A-AB	CV ANGLE T WAY B-AB	SEGGIO SEAT STRAIGHT WAY Ømm	SEGGIO SEAT ANGLE WAY Ømm	CORSA STROKE mm
250	1000	1000	1170	1170	240	240	75
300	1400	1400	1638	1638	290	290	95

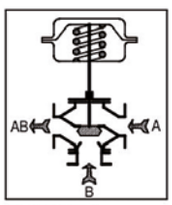
DIVERTING VALVE WITH DIVERTING PLUG

TAB.08

DN	KV STRAIGHT WAY A-AB	KV ANGLE WAY B-AB	CV STRAIGHT WAY A-AB	CV ANGLE T WAY B-AB	SEGGIO SEAT STRAIGHT WAY Ømm	SEGGIO SEAT ANGLE WAY Ømm	CORSA STROKE mm
250	1000	600	1170	702	240	187	75
300	1400	840	1638	983	290	240	95

M9-3 Max pressioni differenziali sotto otturatore (ΔP) flusso tendente ad aprire (versione NC) | **M9-3 Max differential pressures under plug (ΔP) flow to open (NC operation)** | **M9-3 Pressions différentielles max sous obturateur (ΔP) débit tendant à ouvrir (fonctionnement NF)** | **M9-3 Max Differential-druckunter Verschluß (ΔP) Flüssigkeitsdruck vor Öffnung (Arbeitsweise NG)** | **M9-3 Presiones max diferenciales bajo obturador (ΔP) flujo tendente a abrir (funcionamiento NC)**

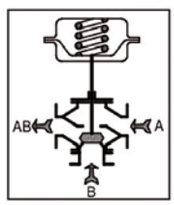
FIG.05



2) MMNC

- Three way mixing valve with mixing plug normally close straight way

Final code of valve M9: M9_____CTM



4) MMNA

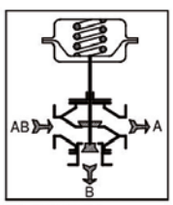
- Three way mixing valve with mixing plug normally open straight way

Final code of valve M9: M9_____ATM

TAB.09

ΔP	ACTUATOR-TYPE N108 Ø520 mm			ACTUATOR-TYPE N216 Ø520 mm double	
DN	Essendo la valvola miscelatrice, le pressioni in ingresso da A e B vengono considerate uguali, con conseguente bilanciamento delle forze sull'otturatore.	By mixing valve, consider the inlet pressure A be the same as B; as a result, the forces on plug are balanced	Pour les vannes de mélange, considerer que la pression d'entrée A est la même que B, en conséquence, les forces sur l'obturateur sont equilibrées.	Bei einer Mischventil ist der Eigangsdruch A der gleiche wie B; so warden die Kräfte auf und unter Verschluß ausgeglichen	Al ser la válvula mezcladora, las presiones de entrada de A y B se consideran iguales, lo que resulta en un equilibrio de las fuerzas sobre el obturador.

FIG.06



1) DDNC*

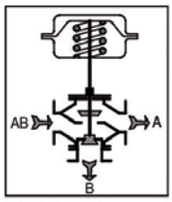
- Three way diverting valve with diverting plug normally close straight way

Final code of valve M9: M9_____CTD

TAB.10

ΔP		ACTUATOR-TYPE N108 Ø520 mm	ACTUATOR-TYPE N216 Ø520 mm double
DN	**signal**	**bar**	**bar**
250	1,5-2,7 bar	1,8	3,6
300	1,5-3,0 bar	0,8	1,6
DN	**signal**	**psi**	**psi**
250	21,75 - 39,16 psi	26,11	52,21
300	21,75 – 43,5 psi	11,60	23,21

FIG.07



3) DDNA*

- Three way diverting valve with diverting plug normally open straight way

Final code of valve M9: M9_____ATD

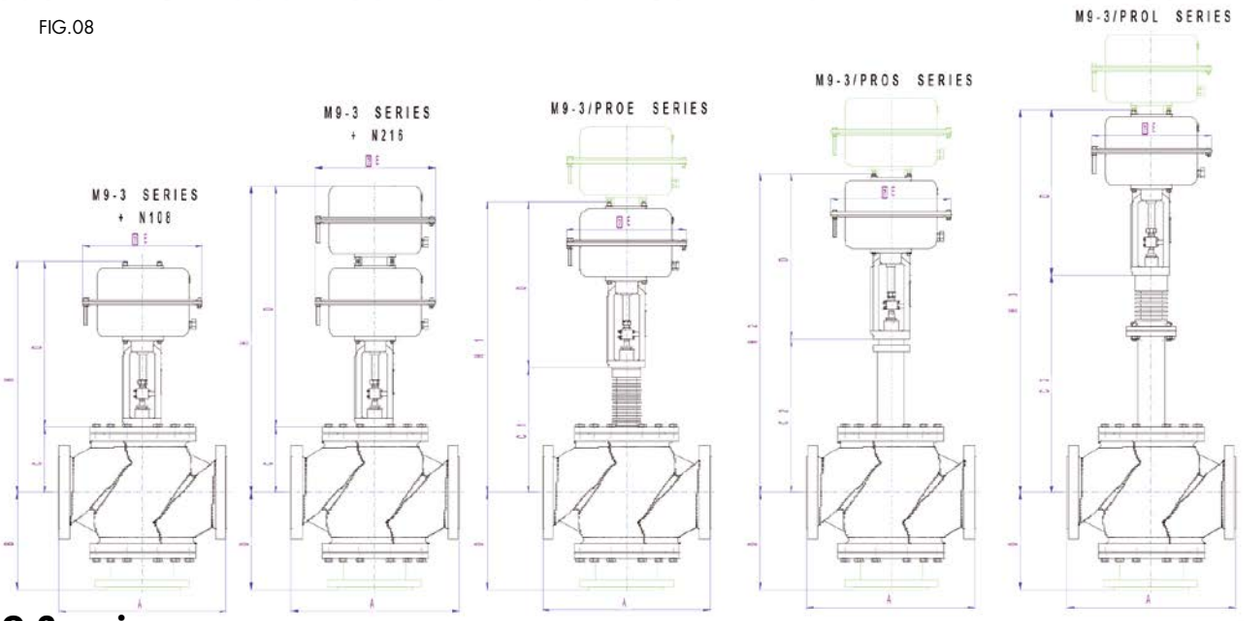
TAB.11

ΔP		ACTUATOR-TYPE N108 Ø520 mm	ACTUATOR-TYPE N216 Ø520 mm double
DN	**signal**	**bar**	**bar**
250	1,5-2,7 bar	1,1	2,3
300	1,5-3,0 bar	0,5	1,1
DN	**signal**	**psi**	**psi**
250	21,75 - 39,16 psi	15,95	33,36
300	21,75 – 43,5 psi	7,25	15,95

The values provided in the table refer to the strength of the servocontrol, but the application of the valve is limited to the rating of the body. Values considered for use with positioner. If the valve is driven by an electro-pneumatic I/P converter, contact our technical department.

Tabella ingombri valvola SERIE M9-3 | **Valve overall dimensions M9-3 SERIES** | **Dimensions totales vanne M9-3 SERIE** | **Tabelle Maße M9-3 SERIE** | **Volúmenes válvula M9-3 SERIE**

FIG.08



M9-3 series

TAB.12

DN	ACTUATOR	A mm (inch)	B mm (inch)	C mm (inch)	D mm (inch)	E mm (inch)	H mm (inch)	ØV mm (inch)	HV mm (inch)
250	N108	730 (28,74)	420 (16,53)	285 (11,22)	719 (28,30)	520 (20,47)	1004 (39,52)	400 (15,74)	450 (17,71)
	N216				1071 (42,16)		1356 (53,38)	500 (19,68)	
300	N108	850 (33,46)	490 (19,29)	340 (13,38)	719 (28,30)	520 (20,47)	1059 (41,69)	400 (15,74)	450 (17,71)
	N216				1071 (42,16)		1411 (55,55)	500 (19,68)	

M9-3/PROE series

TAB.13

DN	ACTUATOR	A mm (inch)	B mm (inch)	C1 mm (inch)	D mm (inch)	E mm (inch)	H1 mm (inch)	ØV mm (inch)	HV mm (inch)
250	N108	730 (28,74)	420 (16,53)	542 (21,33)	719 (28,30)	520 (20,47)	1261 (49,64)	400 (15,74)	450 (17,71)
	N216				1071 (42,16)		1613 (63,50)	500 (19,68)	
300	N108	850 (33,46)	490 (19,29)	600 (23,62)	719 (28,30)	520 (20,47)	1319 (51,92)	400 (15,74)	450 (17,71)
	N216				1071 (42,16)		1671 (65,78)	500 (19,68)	

M9-3/PROS series

TAB.14

DN	ACTUATOR	A mm (inch)	B mm (inch)	C2 mm (inch)	D mm (inch)	E mm (inch)	H2 mm (inch)	ØV mm (inch)	HV mm (inch)
250	N108	730 (28,74)	420 (16,53)	668 (26,29)	719 (28,30)	520 (20,47)	1387 (54,60)	400 (15,74)	450 (17,71)
	N216				1071 (42,16)		1739 (68,46)	500 (19,68)	
300	N108	850 (33,46)	490 (19,29)	750 (29,52)	719 (28,30)	520 (20,47)	1469 (57,83)	400 (15,74)	450 (17,71)
	N216				1071 (42,16)		1821 (71,69)	500 (19,68)	

M9-3/PROL series

TAB.15

DN	ACTUATOR	A mm (inch)	B mm (inch)	C3 mm (inch)	D mm (inch)	E mm (inch)	H3 mm (inch)	ØV mm (inch)	HV mm (inch)
250	N108	730 (28,74)	420 (16,53)	807 (31,47)	719 (28,30)	520 (20,47)	1532 (59,75)	400 (15,74)	450 (17,71)
	N216				1071 (42,16)		1878 (73,63)	500 (19,68)	
300	N108	850 (33,46)	490 (19,29)	850 (33,15)	719 (28,30)	520 (20,47)	1560 (60,85)	400 (15,74)	450 (17,71)
	N216				1071 (42,16)		1921 (75,31)	500 (19,68)	

CODICI DI ORDINAZIONE | ORDER CODES | CODES DE COMMANDE | BESTELLNUMMERN | CÓDIGOS DE PEDIDO

Valvola modulante	**Control valve**	**Vanne de réglage**	**Regelventil**	**Valvula moduladora**	**M9**
Corpo EN-GJS-400-18-LT interni in AISI316/304/420, attacchi flangiati: scartamento EN-558-1serie1 foratura PN16 UNI-EN-1092-2	EN-GJS-400-18-LT body, internal parts in AISI316/304/420, flanged connections: face to face EN-558-1serie1 drilling PN16UNI-EN-1092-2	Corps EN-GJS-400-18-LT, les intérieurs en AISI316/304/420, brideés: encombrement face-à-face EN-558-1serie1 percage PN16 UNI-EN-1092-2	Körper aus EN-GJS-400-18-LT, innen aus AISI316/304/420, Flanschverbindungen: Baulänge nach EN-558-1serie1 (DIN3202-1F1) Lochflansch PN16 UNI-EN-1092-2	Cuerpo EN-GJS-400-18-LT, interiores en AISI316/304/420, connexiones bridas: Distancia entre bridas EN-558-1serie1 perforado PN16 UNI EN-1092-2	S
Corpo in AISI316, interni in AISI316/304/420, attacchi flangiati: scartamento EN-558-1serie1 foratura PN40 UNI-EN-1092-1	AISI316 body, internal parts in AISI316/304/420, flanged connections: face to face EN-558-1serie1 drilling PN40 UNI-EN-1092-1	Corps en AISI316, les intérieurs en AISI316/304/420, connexions brideés: encombrement face-à-face EN-558-1serie1 percage PN40 UNI-EN-1092-1	Körper aus AISI316, innen aus AISI316/304/420, Flanschverbindungen: Baulänge nach EN-558-1serie1 ochflansch PN40 UNI-EN-1092-1	Cuerpo en AISI316, interiores en AISI316/304/420, connexiones bridas: Distancia entre bridas EN-558-1serie1 perforado PN40 UNI-EN-1092-1	I
Corpo in AISI316, interni in AISI316, attacchi flangiati: scartamento EN-558-1serie1 foratura PN40 UNI-EN-1092-1	AISI316 body, internal parts in AISI316, flanged connections: face to face EN-558-1serie1 drilling PN40 UNI-EN-1092-1	Corps en AISI316, les intérieurs en AISI316, connexions brideés: encombrement face-à-face EN-558-1serie1 percage PN40 UNI-EN-1092-1	Körper aus AISI316, innen aus AISI316, Flanschverbindungen: Baulänge nach EN-558-1serie1 Lochflansch PN40 UNI-EN-1092-1	Cuerpo en AISI316, interiores en AISI316, connexiones bridas: Distancia entre bridas EN-558-1serie1 perforado PN40 UNI-EN-1092-1	II
Corpo in A217 WC6, interni in AISI316/304, attacchi flangiati: scartamento EN-558-1serie1 foratura PN40 UNI-EN-1092-1	A217 WC6 body and AISI316/304 internal parts, flanged connections: face to face EN-558-1serie1 drilling PN40 UNI-EN-1092-1	Corps en A217 WC6 et les intérieurs en AISI316/304, connexions brideés: encombrement face-à-face EN-558-1serie1 percage PN40 UNI-EN-1092-1 Körper	aus A217 WC6 und innen aus AISI316/304, Flanschverbindungen: Baulänge nach EN-558-1serie1 Lochflansch PN40 UNI-EN-1092-1	Cuerpo en A217 WC6 y interiores en AISI316/304, connexiones bridas: Distancia entre bridas EN-558-1serie1 perforado PN40 UNI-EN-1092-1	W6
Corpo in F55 A890-A995 gr.6A, interni in F55 A890-A995 gr.6A, attacchi flangiati: scartamento EN-558-1serie1 foratura PN40 UNI-EN-1092-1	F55 A890-A995 gr.6A body, internal parts in F55 A890-A995 gr.6A, flanged connections: face to face EN-558-1serie1 drilling PN40 UNI-EN-1092-1	Corps en F55 A890-A995 gr.6A, les intérieurs en F55 A890-A995 gr.6A, connexions brideés: encombrement face-à-face EN-558-1serie1 percage PN40 UNI-EN-1092-1	Körper aus F55 A890-A995 gr.6A, innen aus F55 A890-A995 gr.6A, Flanschverbindungen: Baulänge nach EN-558-1serie1 Lochflansch PN40 UNI-EN-1092-1	Cuerpo en F55 A890-A995 gr.6A, interiores en F55 A890-A995 gr.6A, connexiones bridas: Distancia entre bridas EN-558-1serie1 perforado PN40 UNI-EN-1092-1	DF55
DN 250 - 300	**DN 250 - 300**	**DN 250 - 300**	**Nennweit 250 - 300**	**DN 250 - 300**	250 … 300
Ø attuatore pneumatico	**Ø pneumatic actuator**	**Ø actionneur pneumatique**	**Ø Pneumatischer Antrieb**	**Ø actuador neumatico**	
N108=Ø520 mm					N108
N216= Ø520 mm doppio double double doppelte doble					N216
Segnale di comando	**Nominal drive signal**	**Signale de commande nominale**	**Nominelles Steuerungsignal**	**Señal de mando nominal**	
DN250=1,5 - 2,7 bar					
DN300=1,5 - 3,0 bar					
Funzionamento standard	**Standard operating mode**	**Fonctionnement standard**	**Standardfunktion**	**Funcionamiento standard**	
Normalmente chiusa	Normally closed	Normalement fermè	Normalerweisse geschlossen	Normalmente cerrado	C
Normalmente aperta	Normally open	Normalement ouvert	Normalerweisse offen	Normalmente abierta	A
D = **A 2 vie** **2 way** **A 2 voies** **2-wege** **A 2 vias**					**D**
T = **A 3 vie** **3 way** **A 3 voies** **3-wege** **A 3 vias**					**T**
Uso della valvola 3 vie	**Valve use 3 way**	**Usage de vanne 3 voies**	**Benutzung Ventil 3-wege**	**Uso de la vàlvula 3 vias**	
Deviatrice con otturatore deviatore	Diverting with diverting plug	De deviation avec obturateur de deviation	Verteilventil mit Verteilkegel	Desviadora con obturador desviadoro	D
Miscelatrice con otturatore miscelatore	Mixing with mixing plug	De melange avec obturateur de melange	Mischventil mit Mischkegel	Mezcladora con obturador mezcladoro	M
Attacchi flangiati: scartamento En-558-1serie1	**Flanged connections: face to face EN-558-1serie1**	**Connexions brideés: encombrement face-à-face EN-558-1serie1**	**Flanschverbindungen: Baulänge nach EN-558-1serie1**	**Conexiones bridas: distancia entre bridas EN-558-1serie1**	
		Only if exception to standard drilling			
Foratura drilling percage	lochflansch	perforado PN 16 UNI-EN-1092-1 UNI-EN-1092-2			5
Foratura drilling percage	lochflansch	perforado PN 25 UNI-EN-1092-1 UNI-EN-1092-2			9
Foratura drilling percage	lochflansch	perforado ANSI 150 ASME B16.5			1
Foratura drilling percage	lochflansch	perforado ANSI 300 ASME B16.5			3
Foratura drilling percage	lochflansch	perforado JIS 10K JIS B2220			0
Foratura drilling percage	lochflansch	perforado JIS 20K JIS B2220			2
Foratura drilling percage	lochflansch	perforado JIS 40K JIS B2220			4
Eventuale prolunga	**Possible extension**	**Rallonge possible**	**Mögliche Verlängerung**	**Possible prolongador**	
/PROE= Prolunga alettata, pacco premistoppa Grafite+PTFE+FPM	Finned extension, stuffing box Graphite+PTFE+FPM	Rallonge aileté, presse étoupe Graphite+PTFE+FPM	Rippenverlängerung, Stopfbuchse Graphit+PTFE+FPM	Prolongador con aletas, prensaestopa Grafito+PTFE+FPM	/PROE
/PROL= Prolunga alettata allungata, pacco premistoppa Grafite+PTFE+FPM	Bellow extension, safety self-adjusting stuffing box	Rallonge avec soufflet, presse étoupe de sureté auto réglant	Faltenbalgverlängerung, selbstregulierende Sicherheitstopfbuchse	prolongador con fuelle, prensaestopa de seguridad autorregulable	/PROL
/PROS= Prolunga con soffietto, pacco premistoppa di sicurezza autoregolante	Long finned extension, stuffing box Graphiyte+PTFE+FPM	Long rallonge aileté, presse étoupe Graphite+PTFE+FPM	Lange Rippenverlängerung, Stopfbuchse Graphite+PTFE+FPM	Prolongador largo con aletas, prensaestopa Grafito+PTFE+FPM	/PROS
Tenuta otturatore	**Plug sealing**	**Obturateur tenue**	**Kegeldichtung**	**Cierre de obturador**	
P = Tenuta PTFE	PTFE seal	Tenue PTFE	Dichtung aus PTFE	Cierre PTFE	P
M = Tenuta metallica	Metal seal	Tenue métallique	Metalldichtung	Cierre metàllico	M
R= Tenuta stellitata	Stellited seal	Tenue stellitè	Dichtung aus stellite	Cierre estillitado	R
Tipo di otturatore	**Plug type**	**Type de obturateur**	**Kegel typ**	**Tipo de obturador**	
Con otturatore EQP=%	With EQP=% plug	Avec obturateur EQP=%	Mit EQP=% Kegel	Con obturador EQP=%	…
L = Con otturatore lineare	With linear plug	Avec obturateur linèaire	Mit linearischem Kegel	Con obturador lineal	L

ESEMPIO **EXAMPLE** **EXEMPLE** **BEISPIEL** **EJEMPLO**

M9	S	250	-	C	D	+	…

N.B. I dati tecnici riportati nel presente catalogo sono indicativi e non impegnativi per il costruttore, il quale si riserva la facoltà di modificarli in qualsiasi momento senza alcun obbligo di preavviso.

N.B. The data included in this catalogue are indicative and not binding for the manufacturer who reserves the right to change them at any time without notice.

N.B. Les données techniques indiquées dans ce catalogue sont indicatives et n'engagent pas le constructeur qui se réserve la faculté de les modifier à n'importe quel moment sans préavis.

Anm.: Die in diesem Katalog angegebenen Daten sind Annäherungswerte und für den Hersteller nicht Bindend. Dieser behält sich die Möglichkeit zur Veränderung in jeder zeit ohne Vorankündigungspflicht vor.

Nota: Los datos técnicos de este catálogo son indicativos y no vinculan al fabricante que podrá modificarlos sin previo aviso.