



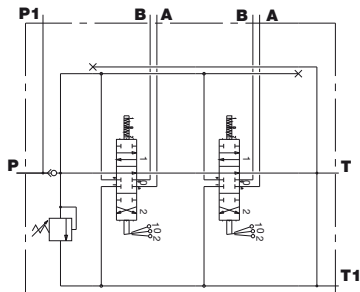
DISTRIBUTORI MONOBLOCCO
MONOBLOCK DIRECTIONAL CONTROL VALVES
MONOBLOCK-STEUERGERÄTE

ML

398SMD0043A00

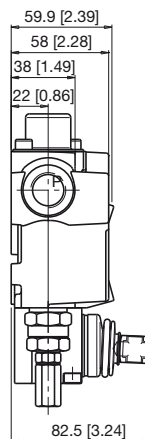
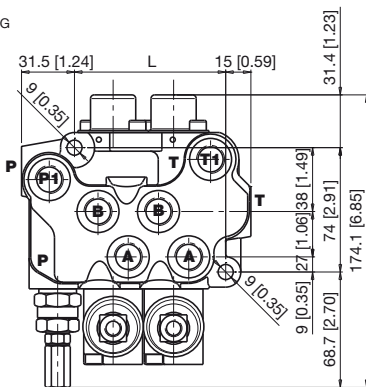
DATI TECNICI TECHNICAL DATA TECHNISCHE MERKMALE

Portata nominale (max) <i>Nominal flow (max)</i>	35 (45) l/min 9.3 (11.9) gpm
Pressione nominale <i>Nominal pressure</i>	250 (3625) bar (psi)
Contropressione massima allo scarico <i>Maximum tank pressure</i>	50 (725) bar (psi)
Massima trafilata interna <i>Maximum internal leakage</i>	8 cc/min (21 cSt - 100 bar)
Temperatura di utilizzo <i>Temperature range</i>	-20°C +85°C NBR seals (max peak +100°C) -20°C + 130°C HNBR seals
Viscosità olio <i>Oil viscosity</i>	Da 15 cSt a 90 cSt From 15 cSt to 90 cSt
Fluidi <i>Fluid</i>	Olio a base minerale Mineral based oil



STANDARD
STANDARD
STANDARD

STANDARD - ENTRATA SINISTRA
STANDARD - LEFT INLET
STANDARD - LINKER EINGANG



DIMENSIONI SIZE ABMESSUNGEN

N° DI SEZIONI N° OF SECTIONS ANZAHL ELEMENTE	L mm [inch]	MASSA kg (lb) WEIGHT kg (lb) GEWICHT kg (lb)
ML1	54 [2.12]	2.9 (6.4)
ML2	90 [3.54]	4.2 (9.2)
ML3	126 [4.96]	5.3 (11.7)
ML4	162 [6.37]	6.6 (14.5)
ML5	198 [7.8]	7.8 (17.2)
ML6	234 [9.21]	9.0 (19.9)
ML7	270 [10.35]	10.2 (22.6)

FILETTATURA THREAD GEWINDE

CODICE MODEL BEZEICHNUNG	TIPO TYPE GEWINDE	SERRAGGIO Nm TORQUE Nm ANZUGSMOMENT Nm
O	NOT MACHINED	/
B	1/2" GAS ISO 1179	70
A	3/8" GAS ISO 1179	35
L	1/4" GAS ISO 1179	14
C	M18x1.5 ISO 9974	40
W	M18x1.5 ISO 6149	40
T	M16x1.5 ISO 9974	24
I	M16x 1,5 ISO 6149	24
E	3/4 - 16 SAE ISO 11926	50
P	9/16 - 18 SAE ISO 11926	21

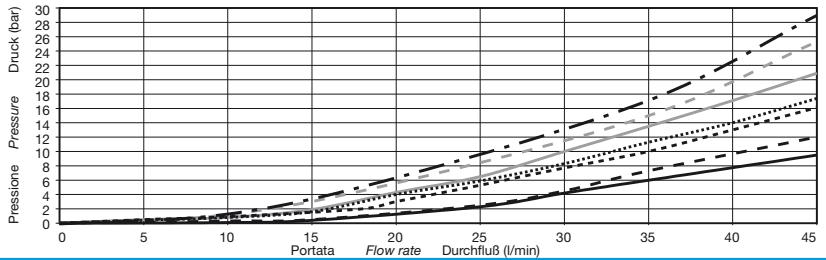
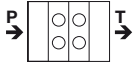


CURVE CARATTERISTICHE
FLOW CURVES
DUCHFLUSSKENNLIENEN

ML

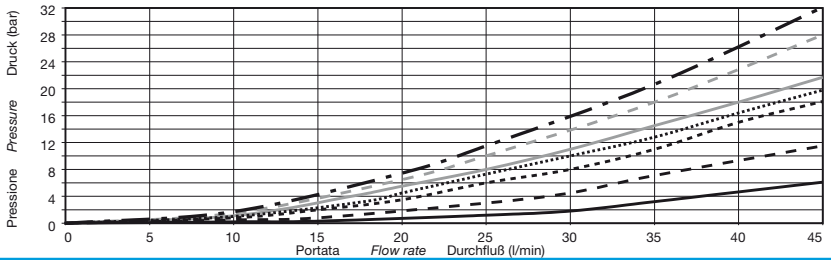
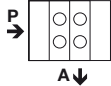
P-T

- ML 1 ———
- ML 2 - - - - -
- ML 3 ·····
- ML 4 - · - · -
- ML 5 ———
- ML 6 - - - - -
- ML 7 - · - · -



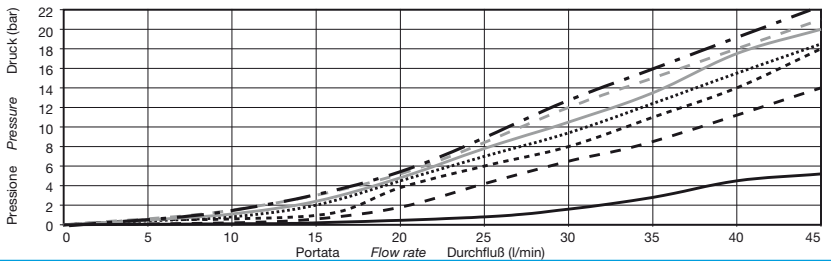
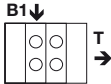
P-A

- ML 1 ———
- ML 2 - - - - -
- ML 3 ·····
- ML 4 - · - · -
- ML 5 ———
- ML 6 - - - - -
- ML 7 - · - · -



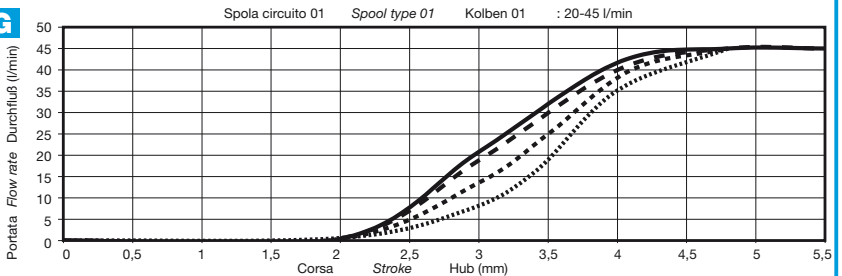
B-T

- ML 1 ———
- ML 2 - - - - -
- ML 3 ·····
- ML 4 - · - · -
- ML 5 ———
- ML 6 - - - - -
- ML 7 - · - · -



METERING

- 0 bar ———
- 50 bar - - - - -
- 100 bar ·····
- 150 bar - · - · -

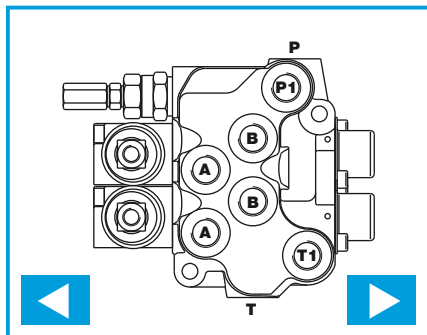


Parametri di prova: spola circuito 01
Testing parameters: 50°C - 21 cSt spool type 01
Prüfparameter: Kolben 01

AZIONAMENTI E OPZIONI ACCESSORIES ZUBEHÖR

ML

OPZIONI GENERALI GENERAL OPTIONS ALLGEMEINE OPTIONEN		
M		Micro centralizzato Centralized microswitch Zentraler Mikroschalter
O		Micro centraliz. verniciatura nera Centralized microswitch black paint Zentraler Mikroschalter, schwarz lackiert
A		Alimentatore Power supply unit Steueröversorgung
B		Alimentatore verniciatura nera Power supply unit black paint Steueröversorgung, schwarz lackiert



AZIONAMENTO ACTUATOR HEBELSEITE		
L		Manuale Manual Handhebel
A		Senza portaleva appendice standard Without lever holder standard appendix Ohne Hebelhalter, Kolben mit Zunge
B		Senza portaleva senza appendice Without lever holder without appendix Ohne Hebelhalter, Kolben ohne Zunge
C		Senza portaleva appendice piatta Without lever holder flat appendix Mechanische Betätigung mit geradem Kolbenende
Z		Manuale con limitatore di corsa Manual with stroke limiter Handhebel mit Hubbegrenzung
T		Predisposizione cavo lato azionamento Cable setting on actuator side Anschluß für Bowdenzug
V		Intenzionale verticale Intentional vertical Sicherheitshebel, vertikal
O		Intenzionale orizzontale Intentional horizontal Sicherheitshebel, horizontal
M		Manipolatore Manipulator Joystick
K		Comando idraulico Hydraulic control Hydraulisch ferngesteuert

OPZIONI LATO POSIZIONATORE SPOOL CONTROL SIDE STEUERSCHIEBERSEITE		
C		Limitatore di corsa Stroke limiter Hubbegrenzung
M		Doppio comando maschio Male dual control Kolbenansteuerung mit Außengewinde
F		Doppio comando femmina Female dual control Kolbenansteuerung mit Innengewinde
T		Predisposizione cavo lato posizionatore Cable setup on positioner side Anschluß für Bowdenzug
Y		Micro doppio effetto Dual effect microswitch Micro-Schalter, aktiv in A und B
P		Micro semplice effetto bocca A Simple effect microswitch port A Micro-Schalter, aktiv in A
O		Micro semplice effetto bocca B Simple effect microswitch port B Micro-Schalter, aktiv in B

**CIRCUITI E SCHEMI IDRAULICI**
HYDRAULIC CIRCUITS AND SCHEMES
KOLBEN UND HYDRAULISCHE SCHEMATA**ML**

CIRCUITO SPOOL TYPE KOLBEN TYPE	POS. 3	POS. 1	POS. 0	POS. 2	POS. 4
01		P → B A → T BP →	P → T A → B BP →	P → A B → T BP →	
03		P → B A → T BP →	A, B → T P → BP →	P → A B → T BP →	
04		P → B A → T BP →	P → T A → B BP →	P → A B → T BP →	
05		P → B A, T → BP →	P → T A → B BP →	PA → B → T BP →	
07		B, A → T P → BP →	P → T A → B BP →	P → A B → T BP →	
08		P → B A → T BP →	B → P A → T BP →	P → A B → T BP →	
10		P → B A → T BP →	B → T A → P BP →	P → A B → T BP →	
19		P → B A → T BP →	P → T A → B BP →	P → B, A, T BP →	
70		P → B A → T BP →	P → T A → B BP →	P → A B → T BP →	A, B → T P → BP →

TIPO DI VALVOLA BOCCA A - B
VALVE TYPE PORT A - B
SEKUNDÄRVENTIL IN ANSCHLUSS A - B

VL	A/B Per la taratura delle valvole consultare le istruzioni per l'ordinazione
TP	A/B For the valve setting, consult the ordering instructions. Ventileinstellung siehe Bestellanleitung.

POSIZIONATORE SPOOL CONTROL SCHIEBERSTELLUNG	
0A	Posizione neutra in 0 Neutral position in 0 Neutralstellung in 0
0B	Posizione neutra in 0, detent in 1 Neutral position in 0, detent in 1 Neutralstellung in 0, rastend in 1
0C	Posizione neutra in 0, detent in 2 Neutral position in 0, detent in 2 Neutralstellung in 0, rastend in 2
0D	Detent in 0, 1, 2 Detent in 0, 1, 2 Raststellung in 0, 1 und 2
0E	Posizione neutra in 0 Neutral position in 0 Neutralstellung in 0
0F	Posizione neutra in 0 Neutral position in 0 Neutralstellung in 0
0H	Detent in 2 Detent in 2 Raststellung in 2
0L	Detent in 1 Detent in 1 Raststellung in 1
0Q	Detent in 1, 2 Detent in 1, 2 Raststellung in 1, 2
0R	Posizione neutra in 2 Neutral position in 2 Neutralstellung in 2
0S	Posizione neutra in 1 Neutral position in 1 Neutralstellung in 1
CP	Posizione neutra in 0, detent in 2, 3 Neutral position in 0, detent in 2, 3 Neutralstellung in 0, rastend in 2, 3
NS	Posizione neutra in 0, detent in 3 Neutral position in 0, detent in 3 Neutralstellung in 0, rastend in 3
NT	Posizione neutra in 0, detent in 4 Neutral position in 0, detent in 4 Neutralstellung in 0, rastend in 4
PS	Detent in 3, 1, 0, 2 Detent in 3, 1, 0, 2 Raststellung in 3, 1, 0, 2

OPZIONI LEVA
LEVER OPTIONS
HEBEL-OPTIONEN

A	110 mm diritta pomello standard 110 mm straight standard knob 110 mm gerade, Standard-Griff	L	Ergonomica diritta verticale 180 mm Ergonomic straight vertical 180 mm Ergonomischer Hebel, gerade, 180 mm, vertikal
B	130 mm diritta pomello standard 130 mm straight standard knob 130 mm gerade, Standard-Griff	M	Ergonomica diritta orizzontale 180 mm Ergonomic straight horizontal 180 mm Ergonomischer Hebel, gerade, 180 mm, horizontal
C	180 mm diritta pomello standard 180 mm straight standard knob 180 mm gerade, Standard-Griff	Y	Ergonomica piegata 15° orizzontale 180 mm Ergonomic bent 15°, horizontal 180 mm Ergonomischer Hebel, 15° gebogen, 180 mm, horizontal
D	210 mm diritta pomello standard 210 mm straight standard knob 210 mm gerade, Standard-Griff	O	Ergonomica piegata 15° verticale 180 mm Ergonomic bent 15°, vertical 180 mm Ergonomischer Hebel, 15° gebogen, 180 mm, vertikal
E	250 mm diritta pomello standard 250 mm straight standard knob 250 mm gerade, Standard-Griff	Q	Ergonomica piegata 30° orizzontale 180 mm Ergonomic bent 30°, horizontal 180 mm Ergonomischer Hebel, 30° gebogen, 180 mm, horizontal
F	300 mm diritta pomello standard 300 mm straight standard knob 300 mm gerade, Standard-Griff	R	Ergonomica piegata 30° verticale 180 mm Ergonomic bent 30°, vertical 180 mm Ergonomischer Hebel, 30° gebogen, 180 mm, vertikal
P	Parapolvere (disponibile solo per azionamento A - B) Dust guard (available only for actuator A - B) Abstreifer (nur für Betätigungen A - B)		

**OPZIONI SPECIALI
SPECIAL OPTIONS
BESONDERE OPTIONEN**

ML

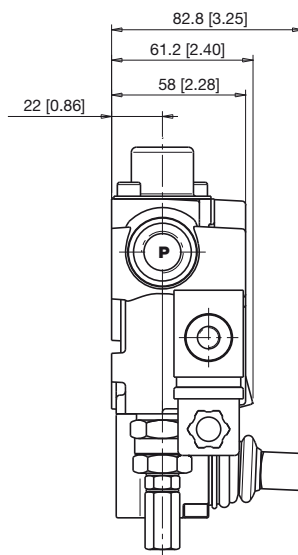
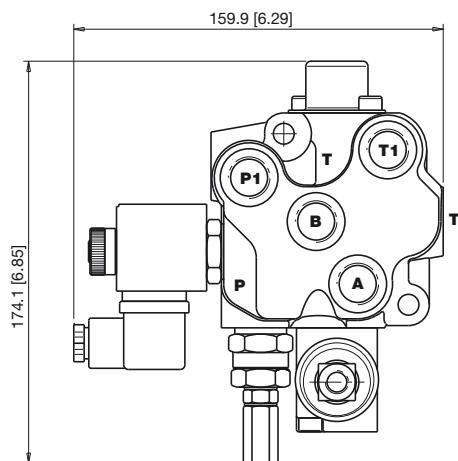
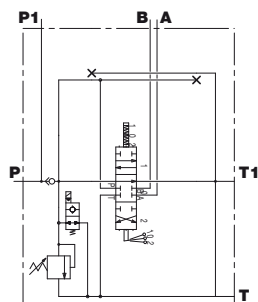
**VALVOLA DI MESSA A SCARICO
DISCHARGE VALVE
UMLAUFVENTIL**

UNL

L'opzione UNL, valvola di messa a scarico, permette il collegamento diretto della linea P con la linea T.

The UNL option, discharge valve, allows the direct connection of the P line to the T line.

Die Option UNL, Umlaufventil erlaubt die direkte Entlastung des Pumpenstroms von P zu T.

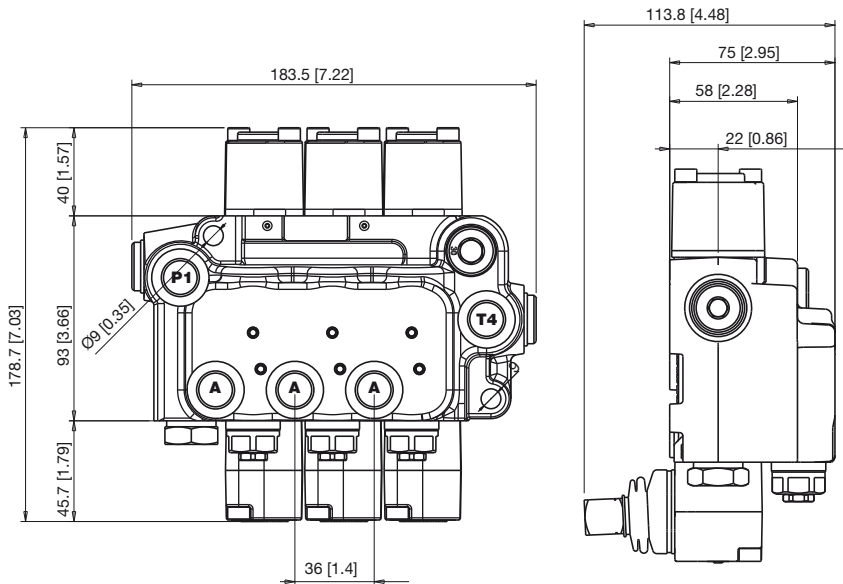
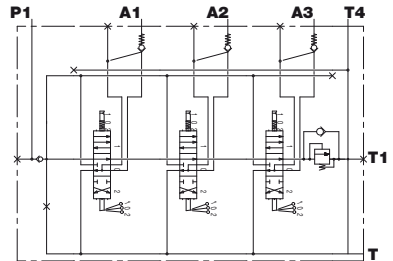


**VALVOLA DI BLOCCO PILOTATA**
PILOT CHECK VALVE
ENTSPERRBARES RÜCKSCHLAGVENTIL**MLVB**

L'opzione MLVB, disponibile solo su versione a tre sezioni, permette l'utilizzo sulle bocche A di valvole di blocco idropilotate.

The MLVB option, available only on the version with three sections, allows the use of hydro-controlled blocking valves on the ports A.

Die Option MLVB, nur als Monoblock mit drei Sektionen erhältlich, hat integrierte entsperbare Rückschlagventile in den Anschlüssen A.



ISTRUZIONI PER L'ORDINAZIONE
ORDERING INSTRUCTIONS
BESTELLANLEITUNG

ML

ML

2

N

S

A

A

A

18

G

A

L

01

A

MODELLO
MODEL
MODELL

N° DI SEZIONI
N° OF SECTIONS
ANZAHL ELEMENTE

OPZIONI GENERALI
GENERAL OPTIONS
ALLGEMEINE OPTIONEM
N - nessuna
V - verniciatura nera
M - micro centralizzato
O - micro centralizzato verniciato
N - None
V - Black paint
M - Centralised microswitch
O - Painted centralised microswitch
N - ohne
V - schwarz lackiert
M - zentraler Mikroschalter
O - zentraler Mikroschalter, schwarz lackiert

TIPO DI ENTRATA
INLET TYPE
P-EINGANG
S - sinistra (standard)
D - destra
S - Left (standard)
D - Right
S - Links (Standard)
D - Rechts

FILETTATURA BOCCA P
THREAD PORT P
ANSCHLUSSGEWINDE P
A - B - T - C - I - W - P - E
Vedi tabella
See chart
Siehe Tabelle

FILETTATURA BOCCA P1
THREAD PORT P1
ANSCHLUSSGEWINDE P1
A - B - T - C - I - W - P - E
Vedi tabella See chart
Siehe Tabelle

OPZIONI SU BOCCA P-P1
OPTIONS ON PORT P-P1
OPTIONEN FÜR ANSCHLUSS P-P1
A - P aperto P1 aperto (standard)
B - P aperto P1 tappato
C - P tappato P1 aperto
A - P open P1 open (standard)
B - P open P1 plugged
C - P plugged P1 open
A - P offen, P1 offen (Standard)
B - P offen, P1 verschlossen
C - P verschlossen, P1 offen

OPZIONI SPOLE
OPTIONS SPOOL
KOLBENVARIANTEN
E - spola standard
F - spola standard nichelata
A - spola 20-45 l/min
B - spola nichelata 20-45 l/min
C - spola 8-20 l/min
D - spola nichelata 8-20 l/min
E - standard spool
F - standard nickel-plated spool
A - spool 20-45l/min
B - nickel-plated spool 20-45 l/min
C - spool 8-20 l/min
D - nickel-plated spool 8-20 l/min
E - Kolben Standard
F - Kolben vernickelt Standard
A - Kolben, 20-45 l/min
B - Kolben vernickelt, 20-45 l/min
C - Kolben, 8-20 l/min
D - Kolben vernickelt, 8-20 l/min

CIRCUITO CIRCUIT
KOLBEN
Vedi tabella
See chart
Siehe Tabelle

AZIONAMENTI
ACTUATORS
BETÄTIGUNGSARTEN
Vedi tabella
See chart
Siehe Tabelle

FILETTATURA BOCHE A-B
THREADS PORTS A-B
ANSCHLUSSGEWINDE A-B
A - T - C - I - W - E
Vedi tabella
See chart
Siehe Tabelle

TIPO DI PIOMBATURA
TYPE OF LEAD SEAL
VERSTELLSICHERUNG
G - grano G - Dowel G - Gewindestift
C - cappuccio C - Cap C - Plastikkappe
P - piombata P - Lead sealed P - Plombiert
R - pred.piom. R - Seal setting R - Bohrung für Plombe
N - nessuna N - None N - ohne

TIPO VALVOLA DI MASSIMA PRESSIONE
MAXIMUM PRESSURE RELIEF VALVE TYPE
DRUCKBEGRENZUNGSVENTIL
00 - Tappo sostitutivo 06 - 60 bar 16 - 160 bar
VMP 07 - 70 bar 17 - 170 bar
08 - 80 bar 18 - 180 bar
VMP replacement 09 - 90 bar 19 - 190 bar
cap 10 - 100 bar 20 - 200 bar
Stopfen anstelle 11 - 110 bar 21 - 210 bar
Von VMP 12 - 120 bar 22 - 220 bar
13 - 130 bar 23 - 230 bar
14 - 140 bar 24 - 240 bar
15 - 150 bar 25 - 250 bar

Ripetere per ogni sezione del distributore
Repeat for each section of the distributor
Für jede Sektion wiederholen

OA

00

00

C

A

N

A

A

A

A

A

**POSIZIONATORE
SPOOL CONTROL
SCHIEBERSTELLUNGSSATZ**

Altri vedi tabella
Others see chart
Andere siehe Tabelle

TIPO VALVOLA BOCCA A
VALVE TYPE PORT A
SEKUNDÄRVENTIL IN ANSCHLUSS A

TP - С мехобработкой, с заглушкой - *Processed and plugged* - Geböhrt und verschlossen

06 - VL 60 bar	13 - VL 130 bar	20 - VL 200 bar
07 - VL 70 bar	14 - VL 140 bar	21 - VL 210 bar
08 - VL 80 bar	15 - VL 150 bar	22 - VL 220 bar
09 - VL 90 bar	16 - VL 160 bar	23 - VL 230 bar
10 - VL 100 bar	17 - VL 170 bar	24 - VL 240 bar
11 - VL 110 bar	18 - VL 180 bar	25 - VL 250 bar
12 - VL 120 bar	19 - VL 190 bar	

TIPO VALVOLA BOCCA B
VALVE TYPE PORT B
SEKUNDÄRVENTIL IN ANSCHLUSS B

TP - С мехобработкой, с заглушкой - *Processed and plugged* - Gebohrt und verschlossen

06 - VL 60 bar	13 - VL 130 bar	20 - VL 200 bar
07 - VL 70 bar	14 - VL 140 bar	21 - VL 210 bar
08 - VL 80 bar	15 - VL 150 bar	22 - VL 220 bar
09 - VL 90 bar	16 - VL 160 bar	23 - VL 230 bar
10 - VL 100 bar	17 - VL 170 bar	24 - VL 240 bar
11 - VL 110 bar	18 - VL 180 bar	25 - VL 250 bar
12 - VL 120 bar	19 - VL 190 bar	

OPZIONI LEVA
OPTIONS LEVER
POSITION DER HANDHEBEL

Altre vedi tabella
Others see chart
Andere siehe Tabelle

POSIZIONI LEVA	LEVER POSITION	POSITION DER HANDHEBEL
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POZZONI LEVA	LEVER POSITION	POSITION	GERMANNREDEL
A - Diritta	A - Straight	A - Gerade	
B - Ruotata 90° verso il P	B - Rotated 90° towards il P	B - 90° gedreht in Richtung P	
C - Ruotata 180°	C - Rotated 180°	C - 180° gedreht	
D - Ruotata 90° verso il T	D - Rotated 90° towards T	D - 90° gedreht in Richtung T	
N - Nessuna	N - None	N - Keine	

**OPZIONI LATO POSIZIONATORE
POSITIONER SIDE OPTIONS
STEUERSCHIEBERSEITE**

N - Нет - None - Keiner
 Altri vedi tabella *Others see chart*
 Andere siehe Tabelle

OPZIONI A SCARICO DISCHARGE OPTIONS

OPTIONEN FÜR TANKANSCHLUSS
A - pred. carry-over (standard)
B - con carry-over bocca T1
A - carry-over setting (standard)
B - with carry-over port T1
A - Vorbereitet für Druck-Weiterl.
 (Standard)
B - Mit Buchse für Druck-Weiterl.

OPZIONI SU BOCCA T-T1-T4
OPTIONS ON PORT T-T1-T4
OPTIONEN FÜR ANSCHLUSS T- T1-T4

A - TT1T4 aperti
B - TT1 aperti T4 non lavorato
C - TT1 aperti T4 tappato
D - TT4 aperto T1 tappato
E - T aperto T1 tappato T4 non lavorato
F - T aperto TT4 tappati
G - T tappato TT4 aperti
H - T tappato T1 aperto T4 tappato
I - T tappato T1 aperto T4 non lavorato
L - TT1 tappati T4 aperto

A - T1T4 open
 B - T1 open T4 not processed
 C - T1 open T4 plugged
 D - T4 open T1 plugged
 E - T open T1 plugged T4 not processed
 F - T open T1T4 plugged
 G - T plugged T1T4 open
 H - T plugged T1 open T4 plugged
 I - T plugged T1 open T4 not processed
 L - T1 plugged T4 open

- A - TT1T4 offen
- B - TT1 offen, T4 nicht gebohrt
- C - TT1 offen, T4 verschlossen
- D - TT4 offen, T1 verschlossen
- E - T offen, T1 verschlossen, T4 nicht gebohrt
- F - T offen, TT1T4 verschlossen
- G - T verschlossen, TT1T4 offen
- H - T verschlossen, T1 offen, T4 verschlossen
- I - T verschlossen, T1 offen, T4 nicht gebohrt
- L - TT1 verschlossen, T4 offen

FILETTATURA BOCCA T4
THREAD PORT T4
ANSCHLUSSGEWINDE T4

Standard *Standard* Standard
L - A - B - T - C - I - W - P - E
Vedi tabella *See chart* Siehe Tabelle

FILETTATURA BOCCA T1
THREAD PORT T1
ANSCHLUSSGEWINDE T1

Vedi tabella See chart Siehe Tabelle

FILETTATURA BOCCA T
THREAD PORT T

ANSCHLUSSGEWINDE T
A - B - T - C - I - W - P - E
Vedi tabella See chart Siehe Tabelle