# CUSTOMER BENEFITS

## SMW-AUTOBLOK is the inventor

SMW-AUTOBLOK - the inventor and pacemaker in technology for OCTG chucks. More than 40 years of experience ensure the highest productivity for all of our customers.

## Worldwide Service + Support

Our worldwide SMW-AUTOBLOK network guarantees immediate service, availability of parts and support wherever needed.

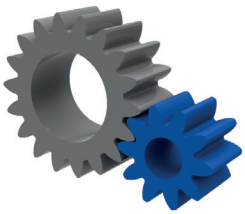
## Partner of oil industry

Working closely with our customers, we are able to provide new and innovative solutions as challenges arise.

## Widest range of OCTG products

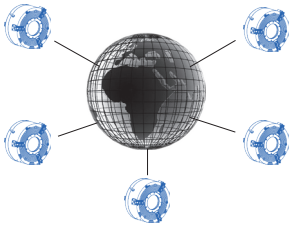
SMW-AUTOBLOK offers a complete range of OCTG chucks as standard products. The need for expensive "special product" chucks with long lead times is eliminated.

## Fast time and high accuracy



Improving production processes with rapid chuck actuation, SMW-AUTOBLOK's OCTG chucks increase productivity and decrease machine downtimes.

## Applications worldwide

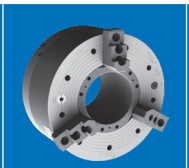
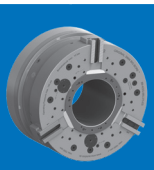
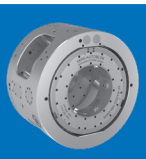
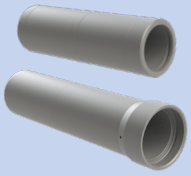
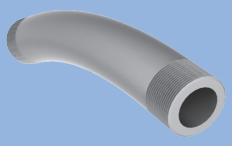
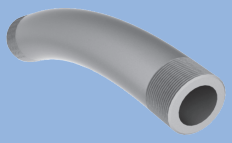
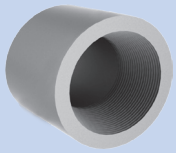
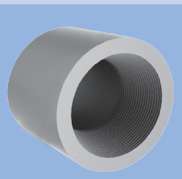


5 continents - 1 partner: All major players in the OCTG industry on 5 continents trust in SMW-AUTOBLOK as their reliable workholding partner.

# Chuck finder for Oil Country Tubular Goods:

- Straight pipes
- Bent pipes
- Couplings

# Introduction

| Machining OCTG product \ Chuck type |  BB-N / BB-N-ES | BB-EXL2G | BB-SC |  BB-AZ2G | BB-FZA2G |  SF-RAZ2G |
|---|---|---|---|---|---|---|
|  **Straight pipes** | Page 12 / 14 | Page 16 | Page 18 | Page 20 | | |
|  **Bent pipes with shimming** | ~ Page 12 / 14 | ~ Page 16 | Page 18 | ~ Page 20 | | |
| **Bent pipes with external centering chuck** | | | | Page 20 | | |
|  **Bent pipes with integrated centering chuck** | | | | | Page 24 | |
|  **Threadings of couplings in 1 set-up** | | | | | | Page 30 |
|  **Threadings of couplings in 2 set-ups** | ~ Page 12 / 14 | ~ Page 16 | ~ Page 18 | | | ~ Page 30 |

Ideal

~ Possible

# Performance characteristics

## Explanation of the end product properties

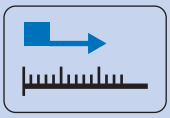
### Big Bore

Big Bore is synonymous for **self contained air chucks with large through holes**. Big Bore chucks allow for the full spindle bore of the machine to be utilized.

### Quick clamping circle

Optimal sized air feeds and valve systems guarantee a **quick clamping cycle**.

### ES



**ES** chucks offer **extended jaw stroke** for greater clearance to ensure safe loading and unloading of pipe.

### Spring clamp

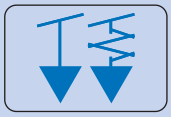
**Spring clamp technology** ensures the quickest clamping cycles and the highest degree of safety under any conditions.

### Low maintenance

proofline® series
fully sealed – low maintenance

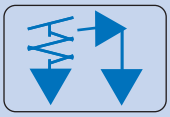
**Proofline** chucks are **fully sealed** and **low maintenance** allowing for long service intervals, minimizing machine downtime.

### AZ-2G

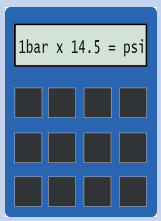


**AZ-2G** chucks offer the versatility of clamping either **compensating** or **self centering**.

### FZA-2G



**FZA-2G** chucks **sequence 3 centering jaws** along with **3 compensating jaws** integrated within the same chuck body.




### Conversion table (US)

| | | | | | |
|---|---|---|---|---|---|
| 1 mm | = | 0.03937 Inch | 1 cm² | = | 0.155 square inches |
| 1 bar | = | 14.5 psi | 1 liter | = | 1.05 quarts (qt) |
| 1 kN | = | 220.46 lbf | 1 kg·m² | = | 3417 lb square inches |
| 1 kg | = | 2.2046 lbs | 1 liter / min | = | 0.264 galon / min |

# Data sheet

# Performance characteristics

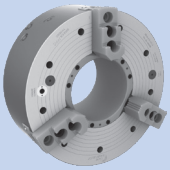
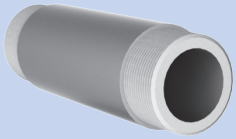
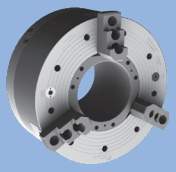
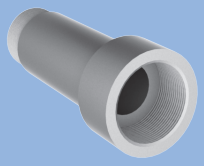
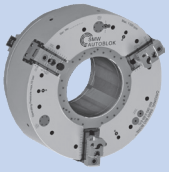
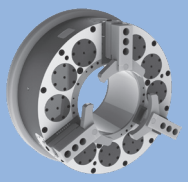
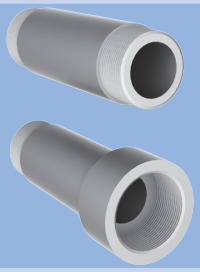
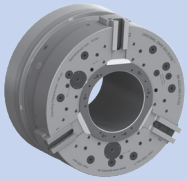
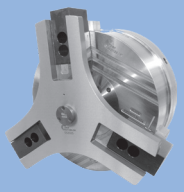
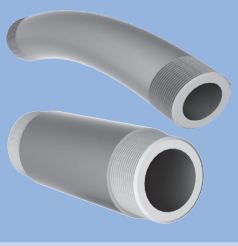
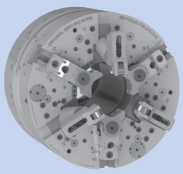
| OCTG chuck | Size | Outside dia. max | Work piece capacity | Time for a full clamping | Time for a full opening | Max. grip force (at max. pressure) | Height of chuck without adapter | Weight without jaws and adapter |
|---|---|---|---|---|---|---|---|---|
| | mm | mm | mm | max. | max. | kN | mm | kg |
| **BB-N**<br>▪ Big Bore<br>▪ Quick clamping circle | 400 - 140 | 467 | 140 | - | - | 266 | 196 | 155 |
| | 470 - 191 | 470 | 191 | 4.5 | 3.0 | 191 | 196 | 160 |
| | 500 - 205 | 570 | 205 | 6.0 | 6.0 | 350 | 225 | 230 |
| | 500 - 230 | 570 | 230 | 6.0 | 6.0 | 316 | 225 | 200 |
| | 600 - 275 | 605 | 275 | 6.0 | 6.0 | 333 | 225 | 270 |
| | 630 - 310 | 685 | 310 | 6.5 | 6.5 | 366 | 263 | 420 |
| | 800 - 410 | 850 | 410 | 7.0 | 5.5 | 550 | 305 | 650 |
| **BB-N-ES**<br>▪ Big Bore<br>▪ Quick clamping circle<br>▪ Extended stroke | 400 - 140 | 467 | 140 | on request | on request | 216 | 240 | 200 |
| | 470 - 191 | 470 | 191 | 4.5 | 3.0 | 191 | 240 | 195 |
| | 500 - 205 | 570 | 205 | 6.0 | 4.5 | 316 | 280 | 340 |
| | 500 - 230 | 570 | 230 | 6.0 | 4.5 | 283 | 280 | 325 |
| | 600 - 275 | 605 | 275 | 6.0 | 4.5 | 308 | 280 | 350 |
| | 630 - 325 | 685 | 325 | 6.0 | 4.5 | 333 | 307.5 | 630 |
| | 850 - 375 | 850 | 375 | 7.0 | 5.5 | 333 | 354 | 970 |
| | 1000 - 560 | 1000 | 560 | 7.5 | 6.0 | 283 | 332 | 960 |
| **BB-SC**<br>▪ Big Bore<br>▪ Spring clamp<br>▪ Low maintenance | 600 - 275 | 750 | 275 | 3 | 3 | 150 | 320.5 | 516 |
| | 850 - 395 | 925 | 395 | 3 | 3 | 170 | 375.5 | 1025 |
| | 1020 - 565 | 1095 | 565 | 4.5 | 4.5 | 170 | 375.5 | 1256 |
| **BB-AZ2G**<br>▪ Big Bore<br>▪ Self centering or compensating<br>▪ Extended stroke | 685 - 275 | 685 | 275 | on request | on request | 266 | 380.5 | 800 |
| | 740 - 330 | 740 | 330 | on request | on request | 266 | 380.5 | 875 |
| | 800 - 390 | 800 | 800 | on request | on request | 300 | 380.5 | 1000 |
| | 1000 - 560 | 1000 | 560 | on request | on request | 300 | 380.5 | 1420 |
| **BB-FZA2G**<br>▪ Big Bore<br>▪ Sequence chuck | 740 - 275 | 740 | 275 | on request | on request | 149 | 516.5 | 1100 |
| | 800 - 330 | 800 | 330 | on request | on request | 133 | 516.5 | 1080 |
| | 920 - 390 | 920 | 390 | on request | on request | 255 | 546.5 | 1900 |
| **SF-RAZ2G**<br>▪ Hydraulic indexing chuck<br>▪ Low maintenance | 750 | 750 | 185 | 2 | 2 | 250 | 456 | 1018 |
| | 840 | 840 | 275 | 2 | 2 | 250 | 501 | 1286 |
| | 950 | 950 | 368 | 2 | 2 | 250 | 560 | 1650 |

Clamping times have been measured with the corresponding original SMW-AUTOBLOK air control unit on the SMW-AUTOBLOK test stand. For more information please contact SMW-AUTOBLOK.

# Overview Pipes

## Customer's OCTG product:

- Straight pipes
- Bent pipes

| CHUCK | APPLICATION | OCTG PRODUCT | CUSTOMER BENEFITS |
|---|---|---|---|
| **BB-N**<br>Page 12<br>  | Threading of straight pipes with the original SMW Big Bore type BB-N. |  | ▪ **Quick jaw movement** more pipes per hour<br>▪ Can be used for other work pieces besides piping<br>▪ O.D. and I.D. clamping |
| **BB-N-ES**<br>Page 14<br>  | Threading of straight pipes with upset ends with the original SMW Big Bore type BB-N-ES. |  | ▪ **Quick jaw movement** more pipes per hour<br>▪ Large jaw stroke for easy loading of pipe and less danger of damaging threads when unloading |
| **BB-EXL2G**<br>Page 16<br>  | Threading of straight pipes with collars with the original SMW Big Bore Type BB-EXL2G. | | |
| **BB-SC**<br>Page 18<br>  | High production **spring clamp** chuck for threading of straight pipes with or without upset ends with the original SMW Big Bore type BB-SC. |  | ▪ **Full jaw stroke in 2 seconds** for highest productivity<br>▪ Fully sealed / low maintenance for highest availabitlity of the machine<br>▪ Safe clamping of pipes even in longer machining processes with spring clamp technology |
| **BB-AZ2G**<br>Page 20<br>  | Threading of straight and bent pipes with the original SMW Big Bore type BB-AZ2G. | | ▪ **Self centering or compensating clamping** for universal use<br>▪ Quick jaw movement<br>▪ External centering device needed when used in compensating mode<br>▪ O.D. clamping only |
| **CC**<br>Page 22<br>  | Threading of straight pipes with upset ends with the original SMW Big Bore type CC. |  | |
| **BB-FZA2G**<br>Page 24<br>  | Threading of straight and bent pipes with integrated centering jaws with the original SMW Big Bore type BB-FZA2G. | | ▪ **Integrated centering jaws for the pipe** = no external centering device needed<br>▪ Quick jaw movement<br>▪ Fully automatic programable cycle |

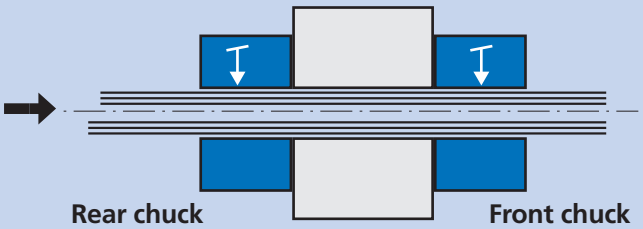
# Pipe clamping

# Recommended combinations

Self-centering clamping | Self-centering or compensating clamping | 3+3 combination

## Combination A

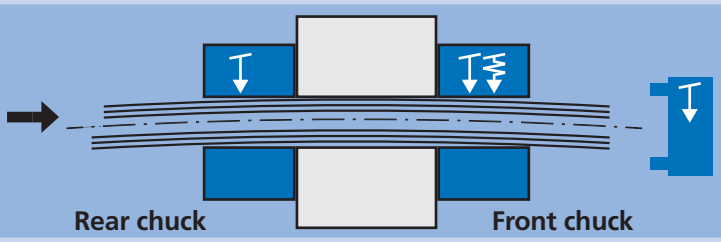
Pipe
Loading




**Note:**
This combination can only be used for straight pipes!

## Combination B

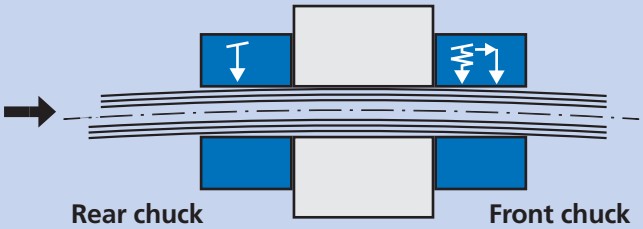
Pipe
Loading




Centering

## Combination C

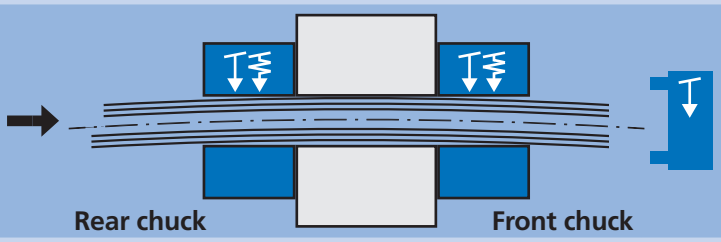
Pipe
Loading




**Note:**
No centering necessary!

## Combination D

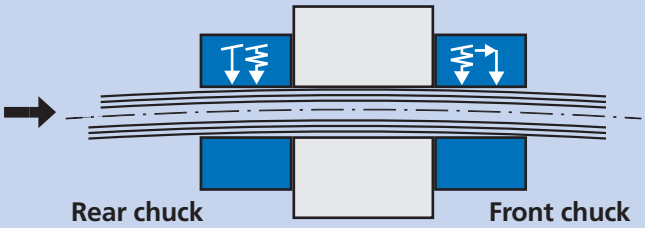
Pipe
Loading




Centering

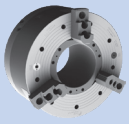
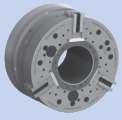
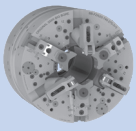
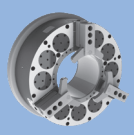
## Combination E

Pipe
Loading




**Note:**
No centering necessary!

## Respective chuck matrix:

| Self-centering clamping | Self-centering or compensating clamping | 3 jaw + 3 jaw combination |
|---|---|---|
|  **BB-N / BB-N-ES** Page 12/14 **BB-EXL2G** Page 16 |  **BB-AZ2G** Page 20 |  **BB-FZA2G** Page 24 |
|  **BB-SC** Page 18 | | |

## Centering options:

**Chuck CC**
Page 22

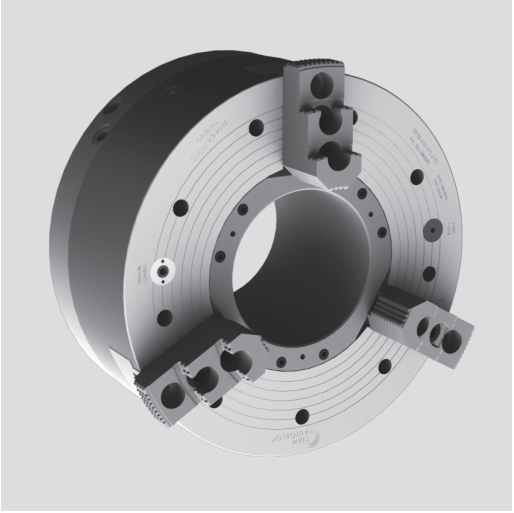
**Turret**
by customer

# BIG BORE®
# BB-N-ES

**Dentatura in POLLICI**

## Autocentranti con cilindro pneumatico incorporato
## PASSAGGIO BARRA EXTRA GRANDE Ø 140 - 560 mm

- Ø mandrini 400 - 1000
- corsa estesa delle griffe
- 3 griffe



## Applicazioni

- Lavorazione delle estremità di tubi lunghi con collarino
- Corsa rapida e corsa di bloccaggio per tempi di attuazione brevi
- È possibile utilizzare il passaggio barra completo della macchina

## Caratteristiche tecniche

- Autocentranti automatici per chiusure esterne con cilindro pneumatico incorporato
- CORSA RAPIDA E CORSA DI BLOCCAGGIO
- Alimentazione dell'aria effettuata tramite anello distributore e guarnizione a profilo tipo SMW con mandrino fermo
- Le valvole anti-ritorno mantengono la pressione durante la lavorazione
- La pressione e la corsa di bloccaggio sono costantemente controllate tramite sistema di sicurezza, detettori e unità di controllo (solo per serraggio esterno)
- Sistema di controllo corsa (per evitare bloccaggi in corsa rapida)

## Dotazione standard

Mandrino a 3 griffe
2 raccordi G 1/2" (4 per BB-N-ES 1000)
12 viti di fissaggio (9 per il BB-N-ES 400)
1 golfare di sollevamento
1 serie di morsetti teneri + tasselli a T con viti senza supporto fisso del distributore

## Esempio di ordine

BIG BORE BB-N-ES 400/Z310

## Accessori

Unità di controllo AC-BB/AC-XN

## Principio inventato da SMW: alimentazione dell'aria con distributore e guarnizioni a profilo SMW

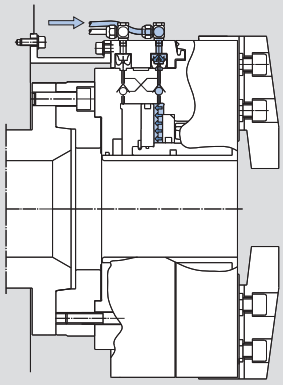


**Fig. 1**
Movimento di apertura/chiusura (possibile solo a mandrino fermo). Le guarnizioni a profilo si deformano sotto l'effetto della pressione dell'aria e aderiscono al corpo del mandrino, permettendo il riempimento del cilindro. Quando la pressione è raggiunta, l'alimentazione cessa e la doppia valvola anti-ritorno si blocca in posizione.

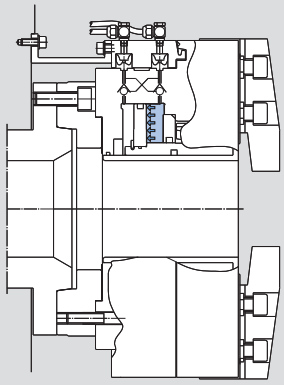


**Fig. 2**
Le guarnizioni a profilo SMW sono in posizione rilassata esterna e non toccano il corpo del mandrino.
La pressione di serraggio è mantenuta all'interno del cilindro e il mandrino può iniziare la rotazione.

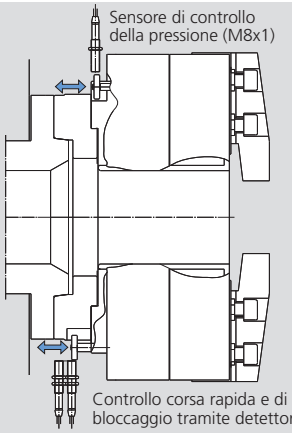
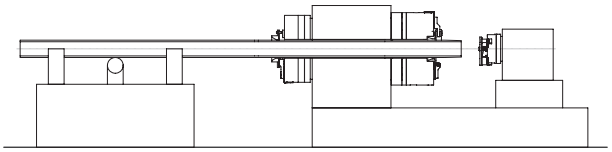
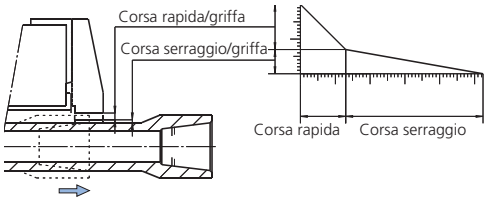



**Fig. 3**
**Controllo della pressione:** se la pressione scende al di sotto di un livello prefissato, un'asta di controllo attiva il sensore di prossimità che invia un segnale di allarme.
**Controllo corsa:** Se il pezzo è serrato in una posizione corsa non corretta, il disco di controllo corsa sarà nella zona di controllo del sensore di prossimità il quale invierà un segnale di allarme.



Lavorazione delle estremità di tubi con due mandrini per tornio

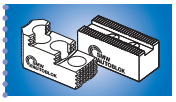



## Dati tecnici

| Modello SMW-AUTOBLOK BB-N-ES | | 400-140 | 470-191 | 500-205 | 500-230 | 600-275 | 630-325 | 850-375 | 1000-560 |
|---|---|---|---|---|---|---|---|---|---|
| **Cod.** | | 052330 | 053536 | 052651 | 052652 | 052990 | 052653 | 052654 | 052655 |
| **Passaggio barra** | mm (poll.) | 140 (5.51") | 191 (7.52") | 205 (8.07") | 230 (9.06") | 275 (10.83") | 325 (12.80") | 375 (14.76") | 560 (22.05") |
| **Corsa totale per griffa** | mm (poll.) | 20 (0.79") | 20 (0.79") | 25.4 (1") | 25.4 (1") | 25.4 (1") | 25.4 (1") | 25.4 (1") | 25.4 (1") |
| **Corsa rapida per griffa*** | mm (poll.) | 13 (0.51") | 13 (0.51") | 16.9 (0.67") | 16.9 (0.67") | 16.9 (0.67") | 17.2 (0.67") | 13.4 (0.53") | 15 (0.59") |
| **Corsa di serraggio per griffa** | mm (poll.) | 7 (0.28") | 7 (0.28") | 8.5 (0.33") | 8.5 (0.33") | 8.5 (0.33") | 8.2 (0.32") | 12 (0.47") | 10.4 (0.41") |
| **Pressione di esercizio** min./max. | bar (psi) | 2 / 10 (29 / 145) | 2 / 10 (29 / 145) | 2 / 10 (29 / 145) | 2 / 10 (29 / 145) | 2 / 10 (29 / 145) | 2 / 10 (29 / 145) | 2 / 10 (29 / 145) | 2 / 10 (29 / 145) |
| **Superficie pistone** | $cm^2$ | 705 | 565 | 1004 | 895 | 954 | 1192 | 1340 | 1090 |
| **Forza di serraggio** a 6 bar | kN (lbf) | 130 (29225) | 115 (25853) | 190 (42714) | 170 (38218) | 185 (41590) | 200 (44962) | 200 (44962) | 170 (38218) |
| **Velocità massima** | giri/min. | 1300 | 1300 | 1100 | 1100 | 1100 | 900 | 750 | 450 |
| **Consumo d'aria/corsa delle griffe** a 6 bar | litri | 29 | 22 | 41 | 37 | 39 | 48 | 79 | 57 |
| **Massa** (senza morsetti) | kg (lbs) | 200 (441) | 190 (419) | 340 (750) | 325 (717) | 360 (794) | 630 (1389) | 970 (2138) | 960 (2116) |
| **Momento d'inerzia** | $kg \cdot m^2$ | 6.5 | 9.83 | 16.4 | 16.1 | 19 | 36 | 105 | 160 |

* da NON utilizzare per il bloccaggio.

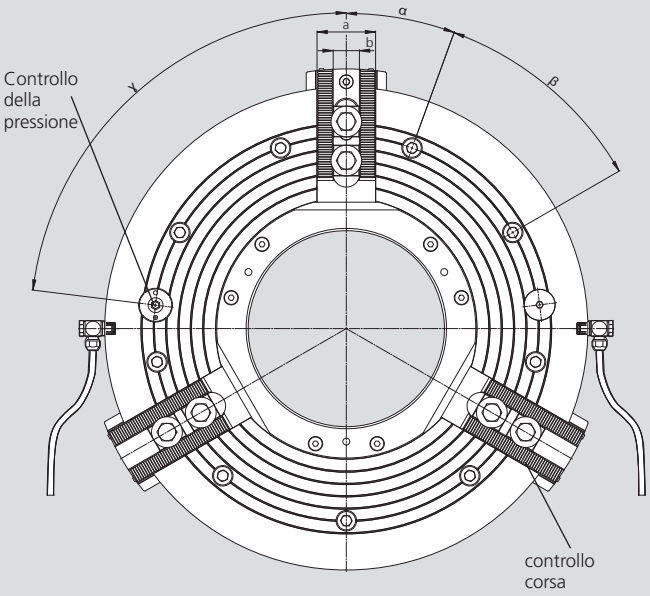
SMW-AUTOBLOK 387

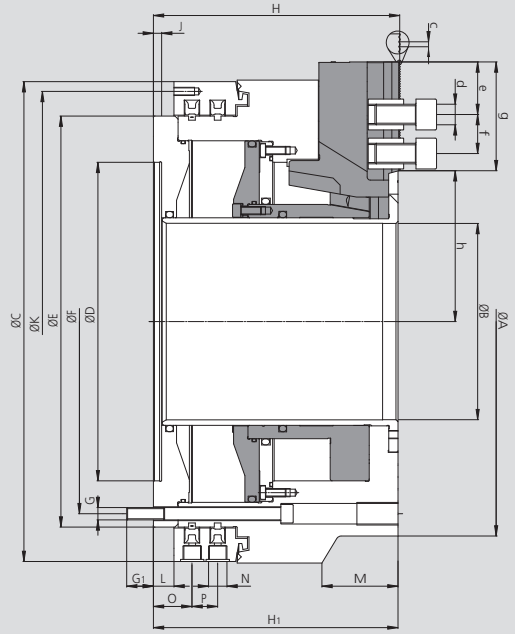

SMW-AUTOBLOK 386

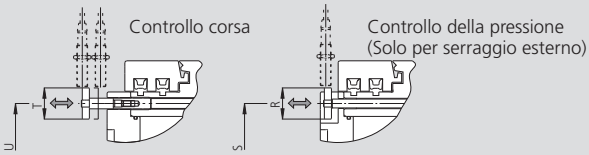
# BIG BORE®
# BB-N-ES

**Dentatura in POLLICI**

**Griffe aperte in posizione di serraggio esterno**




**Rappresentazioni ingrandite**

* Tutti i tubi di alimentazione devono avre almeno il Ø interno = 1/2“,
e dalla taglia 630 in su, Ø interno min. 3/4“!

BB-N ES 1000 necessita di 2 serie di tubi per l’apertura/chiusura
(vedere manuale di installazione)

Per determinare l’esatta posizione del controllo della corsa delle griffe e del controllo pressione, richiedere il disegno di caratteristiche

Con riserva di modifiche tecniche.
Per maggiori informazioni contattare l’ufficio tecnico SMW-AUTOBLOK.

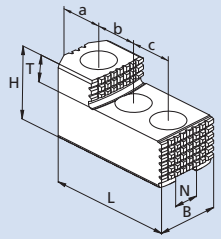
| Modello SMW-AUTOBLOK BB-N-ES | | | 400-140 | 470-191 | 500-205 | 500-230 | 600-275 | 630-325 | 850-375 | 1000-560 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Cod.** | | | **052330** | **053536** | **052651** | **052652** | **052990** | **052653** | **052654** | **052655** |
| **Attacco** | | | **Z310** | **Z310** | **Z415** | **Z415** | **Z450** | **Z510** | **Z700** | **Z700** |
| | **A** | mm | 467 | 470 | 570 | 570 | 605 | 685 | 850 | 1000 |
| | **B** | mm | 140 | 191 | 205 | 230 | 275 | 325 | 375 | 560 |
| | **C** | mm | 467 | 467 | 570 | 570 | 605 | 685 | 850 | 925 |
| | **D** H6 | mm | 310 | 310 | 415 | 415 | 450 | 510 | 700 | 700 |
| | **E** | mm | 400 | 400 | 500 | 500 | 535 | 610 | 775 | 850 |
| Interasse viti di fissaggio | **F** | mm | 374 | 374 | 474 | 474 | 508 | 580 | 745 | 815 |
| | **G** | mm | M12 | M12 | M12 | M12 | M12 | M16 | M16 | M16 |
| | **G1** | mm | 26 | 26 | 25 | 25 | 25 | 30 | 30 | 30 |
| | **H** | mm | 240 | 240 | 282 | 282 | 282 | 307.5 | 354 | 332 |
| | **H1** | mm | 238 | 238 | 280 | 280 | 280 | 305.5 | 352 | 330 |
| | **J** | mm | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 10 |
| Interasse viti 6 x M8 | **K** | mm | 448 | 448 | 550 | 550 | 585 | 666 | 830 | 910 |
| | **L** | mm | 20 | 20 | 20 | 20 | 20 | 20 | 25 | 33 |
| | **M** | mm | - | - | - | - | - | - | - | 224 |
| Raccordi pneumatici | **N** | pollici | G 1/2" | G 1/2" | G 1/2" | G 1/2" | G 1/2" | G 1/2" | G 1/2" | G 1/2" |
| | **O** | mm | 37 | 37 | 37 | 37 | 37 | 39.5 | 44.5 | 52.5 |
| | **P** | mm | 26 | 26 | 26 | 26 | 26 | 33 | 33 | 33 |
| | **R** | mm | 35 | 35 | 35 | 35 | 35 | 42 | 35 | 42 |
| | **S** | mm | 374 | 374 | 474 | 474 | 508 | 580 | 745 | 815 |
| | **T** | mm | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| | **U** | mm | 374 | 374 | 474 | 474 | 508 | 580 | 745 | 815 |
| | **a** | mm | 57 | 57 | 57 | 57 | 57 | 75 | 75 | 75 |
| | **b** | mm | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 30 | 30 | 30 |
| Dentatura | **c** | pollici | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° |
| Vita ISO 4762 12.9 | **d** | mm | M20 | M20 | M20 | M20 | M20 | M24 | M24 | M24 |
| min. | **e** | mm | 14 | 14 | 14 | 14 | 14 | 16 | 16 | 16 |
| Distanza tasselli a T min./max. | **f** | mm | 38 / 90 | 38 / 85 | 38 / 104 | 38 / 92 | 38 / 79 | 47 / 100 | 47 / 140 | 47 / 125 |
| Lunghezza della dentatura | **g** | mm | 121 | 106 | 140 | 127.5 | 116.5 | 138 | 182 | 166 |
| min./max. | **h** | mm | 104 / 124 | 127 / 147 | 145.6 / 171 | 158 / 182.5 | 179.1 / 204.5 | 204.6 / 230 | 242.6 / 268 | 334.6 / 360 |
| | **α** | ang. | 20 | 20 | 15 | 15 | 15 | 15 | 15 | 15 |
| | **β** | ang. | 9 x 40 | 9 x 40 | 12 x 30 | 12 x 30 | 12 x 30 | 12 x 30 | 12 x 30 | 12 x 30 |
| Controllo della pressione | **γ** | ang. | 83 | 83 | 60 | 60 | 60 | 60 | 60 | 60 |

# BIG BORE®
# BB-N-ES

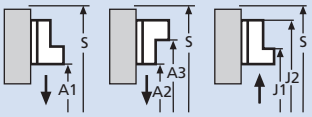
**Dentatura in POLLICI**

■ Morsetti
■ Tasselli a T

## MHB-D
**Morsetti duri reversibili**

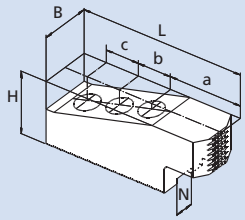



**Gamme di serraggio**

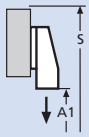



| Mandrino BB-N-ES | 400-140 | 470-191 | 500-205 | 500-230 | 600-275 | 630-325 | 850-375 | 1000-560 |
|---|---|---|---|---|---|---|---|---|
| Tipo mors. | MHB-D 500 | MHB-D 500 | MHB-D 500 | MHB-D 500 | MHB-D 500 | MHB-D 630 | MHB-D 800 | MHB-D 800 |
| Cod. | 12084546 | 12084546 | 12084546 | 12084546 | 12084546 | 12086446 | 12088046 | 12088046 |
| B | 60 | 60 | 60 | 60 | 60 | 75 | 75 | 75 |
| H | 75 | 75 | 75 | 75 | 75 | 85 | 85 | 85 |
| L | 140 | 140 | 140 | 140 | 140 | 160 | 220 | 220 |
| T | 2 x 19 | 2 x 19 | 2 x 19 | 2 x 19 | 2 x 19 | 30 | 30 | 30 |
| N | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 30 | 30 | 30 |
| Dentatura | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° |
| a | 46 | 46 | 46 | 46 | 46 | 30 | 51 | 51 |
| b | 38 | 38 | 38 | 38 | 38 | 50 | 62 | 62 |
| c | 38 | 38 | 38 | 38 | 38 | 50 | 62 | 62 |
| kg/serie | 6.6 | 6.6 | 6.6 | 6.6 | 6.6 | 13.5 | 19.5 | 19.5 |
| | | | | | | | | |
| $A_1$ | 78-264 | 113-270 | 175-388 | 200-388 | 252-422 | 295-500 | 320-610 | 470-760 |
| $A_2$ | 125-310 | 160-315 | 225-435 | 250-435 | 376-546 | 295-500 | 330-620 | 480-770 |
| $A_3$ | 310-495 | 345-500 | 410-620 | 435-620 | 475-645 | 495-700 | 590-865 | 745-1030 |
| $J_1$ | - | - | - | - | - | - | - | - |
| $J_2$ | - | - | - | - | - | - | - | - |
| S | 635 | 640 | 765 | 765 | 765 | 870 | 1070 | 1250 |

## GAB
**Morsetti duri**

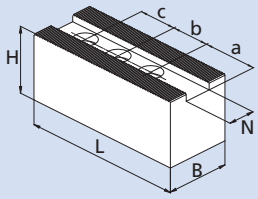



**Gamme di serraggio**

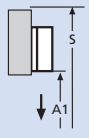



| Mandrino BB-N-ES | 400-140 | 470-191 | 500-205 | 500-230 | 600-275 | 630-325 | 850-375 | 1000-560 |
|---|---|---|---|---|---|---|---|---|
| Tipo mors. | GAB 500 | GAB 500 | GAB 500 | GAB 500 | GAB 500 | GAB 630 | GAB 800 | GAB 800 |
| Cod. | 12085146 | 12085146 | 12085146 | 12085146 | 12085146 | 12086546 | 12089046 | 12089046 |
| B | 55 | 55 | 55 | 55 | 55 | 75 | 75 | 75 |
| H | 73 | 73 | 73 | 73 | 73 | 82 | 82 | 82 |
| L | 195 | 195 | 195 | 195 | 195 | 245 | 320 | 320 |
| N | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 30 | 30 | 30 |
| Dentatura | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° |
| a | 96 | 96 | 96 | 96 | 96 | 113 | 165 | 165 |
| b | 38 | 38 | 38 | 38 | 38 | 50 | 60 | 60 |
| c | 38 | 38 | 38 | 38 | 38 | 50 | 60 | 60 |
| kg/serie | 16.5 | 16.5 | 16.5 | 16.5 | 16.5 | 31.5 | 40.5 | 40.5 |
| | | | | | | | | |
| $A_1$ | 25-160 | 60-165 | 75-290 | 100-290 | 135-306 | 130-335 | 95-385 | 245-535 |
| S | 635 | 640 | 765 | 765 | 740 | 870 | 1060 | 1210 |

## WBSA-D / WBC-D
**Morsetti teneri**




**Gamme di serraggio**



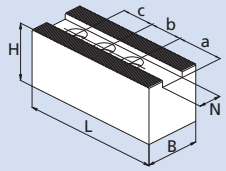

| Mandrino BB-N-ES | 400-140 | 470-191 | 500-205 | 500-230 | 600-275 | 630-325 | 850-375 | 1000-560 |
|---|---|---|---|---|---|---|---|---|
| Tipo mors. | WBSA-D 500 | WBSA-D 500 | WBSA-D 500 | WBSA-D 500 | WBSA-D 500 | WBC-D 630 | WBC 800 | WBC-D 800 |
| Cod. | 12075050 | 12075050 | 12075050 | 12075050 | 12075050 | 12076440 | 12078040 | 12078040 |
| B | 60 | 60 | 60 | 60 | 60 | 80 | 80 | 80 |
| H | 60 | 60 | 60 | 60 | 60 | 80 | 80 | 80 |
| L | 170 | 170 | 170 | 170 | 170 | 240 | 320 | 320 |
| N | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 30 | 30 | 30 |
| Dentatura | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° |
| a | 69 | 69 | 69 | 69 | 69 | 110 | 165 | 165 |
| b | 38 | 38 | 38 | 38 | 38 | 50 | 60 | 60 |
| c | 38 | 38 | 38 | 38 | 38 | 50 | 60 | 60 |
| kg/pezzo | 3.6 | 3.6 | 3.6 | 3.6 | 3.6 | 11 | 15 | 15 |
| | | | | | | | | |
| $A_1$ | 35-220 | 70-225 | 130-335 | 155-335 | 189-360 | 135-340 | 95-385 | 245-535 |
| S | 590 | 595 | 720 | 720 | 740 | 865 | 1060 | 1210 |

**CATALOGO MORSETTI**
Richiesta o download da:
www.smwautoblok.com

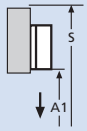
# BIG BORE®
# BB-N-ES

**Dentatura in POLLICI**

## WBC-D, WBCL-D
**Morsetti teneri tornibiliversione lunga**

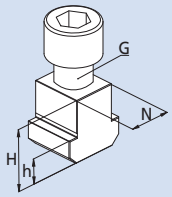



**Gamme di serraggio**




| Mandrino BB-N-ES | 400-140 | 470-191 | 500-205 | 500-230 | 600-275 | 630-325 | 850-375 | 1000-560 |
|---|---|---|---|---|---|---|---|---|
| Tipo mors. | WBC-D 502 | WBC-D 502 | WBC-D 502 | WBC-D 502 | WBC-D 502 | WBC-D 800 | WBCL-D 800 | WBCL-D 800 |
| Cod./pz. | 12075140 | 12075140 | 12075140 | 12075140 | 12075140 | 12078040 | 12079040 | 12079040 |
| B | 60 | 60 | 60 | 60 | 60 | 80 | 80 | 80 |
| H | 60 | 60 | 60 | 60 | 60 | 80 | 80 | 80 |
| L | 205 | 205 | 205 | 205 | 205 | 320 | 390 | 390 |
| N | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 30 | 30 | 30 |
| Dentatura | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° | 3/32" x 90° |
| a | 104 | 104 | 104 | 104 | 104 | 165 | 230 | 230 |
| b | 38 | 38 | 38 | 38 | 38 | 60 | 60 | 60 |
| c | 38 | 38 | 38 | 38 | 38 | 60 | 60 | 60 |
| kg | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 15 | 18 | 18 |
| | | | | | | | | |
| $A_1$ | - | 0-150 | 60-275 | 85-275 | 119-290 | 25-210 | 25-255 | 115-405 |
| S | - | 595 | 720 | 720 | 740 | 895 | 1070 | 1220 |

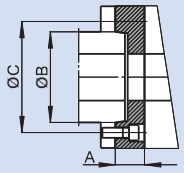
## NST
**Tasselli a T**




| Mandrino BB-N-ES | 400-140 | 470-191 | 500-205 | 500-230 | 600-275 | 630-325 | 850-375 | 1000-560 |
|---|---|---|---|---|---|---|---|---|
| Tipo tassello | NST | NST | NST | NST | NST | NST | NST | NST |
| Cod. | 12065020 | 12065020 | 12065020 | 12065020 | 12065020 | 13063900 | 13063900 | 13063900 |
| N | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 30 | 30 | 30 |
| H | 34 | 34 | 34 | 34 | 34 | 44 | 44 | 44 |
| h | 15 | 15 | 15 | 15 | 15 | 18 | 18 | 18 |
| G | M 20 | M 20 | M 20 | M 20 | M 20 | M 24 | M24 | M 24 |
| Vite ISO 4762 12.9 | M20 x 40 | M20 x 40 | M20 x 40 | M20 x 40 | M20 x 40 | M24 x 60 | M24 x 60 | M24 x 60 |

## Flange per mandrini BIG BORE

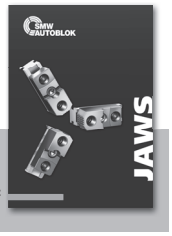
**ISO-A DIN 55026**
**Attacco**




| BB-N-ES | | 400-140/470-191 | | | 500-205/500-230 | | | 600-275 | | | 630-325 | | | 850-375 | | 1000-560 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Naso macchina | | A8 | A11 | A15 | A11 | A15 | A20 | A11 | A15 | A20 | A11 | A15 | A20 | A15 | A20 | A15 | A20 |
| Cod. | | 24184020 | 24114020 | 24124020 | 24115030 | 24125020 | 24175020 | 24116020 | 24126020 | 24176020 | 24116320 | 24126320 | 24176320 | 24128020 | 24178020 | su richiesta | |
| A | mm | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 50 | 50 | 50 | 50 | 50 | | |
| B | mm | 139.719 | 196.869 | 285.775 | 196.869 | 285.775 | 412.775 | 196.869 | 285.775 | 412.775 | 196.869 | 285.775 | 412.775 | 285.775 | 412.775 | 265.775 | 412.775 |
| C | mm | 171.4 | 235 | 330.2 | 235 | 330.2 | 463.6 | 235 | 330.2 | 463.6 | 235 | 330.2 | 463.6 | 330.2 | 463.6 | 330.2 | 463.6 |

Flange di adattamento per montaggi a baionetta e camlock sono disponibili su richiesta.

CATALOGO MORSETTI
Richiesta o download da: www.smwautoblok.com



# Pneumatic diagrams

## Summary of pneumatic cycles and parts

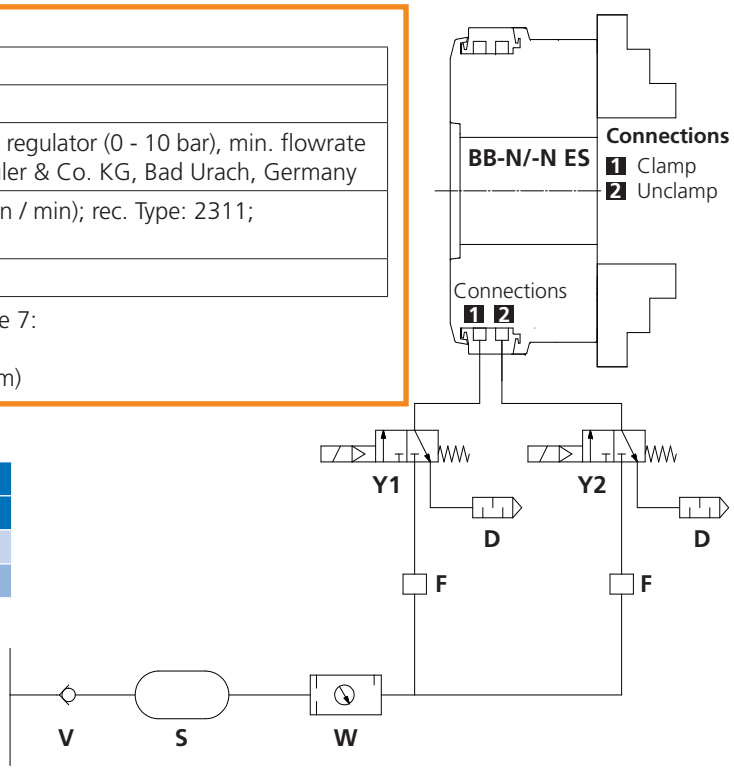
- Cycle clamp BB-N / BB-N ES
- Cycle clamp BB-SC

**Common parts for all Big Bore air circuits:**

| | |
|---|---|
| **V** | Non return valve towards the pneumatic system |
| **S** | Accumulator (approx. 90 normal liter / 23 gallon) |
| **W** | Air service unit 3/4" with filter, dryer, oiler and pressure regulator (0 - 10 bar), min. flowrate 3100 l/min (819 gallon / min); rec. Type: FRL 34S; Riegler & Co. KG, Bad Urach, Germany |
| **D** | Silencer 3/4", min. flowrate 15000 l / min (3963 gallon / min); rec. Type: 2311; Festo, Esslingen, Germany |
| **F** | Air flow sensor |

Used connection parts for time measuring according to page 7:

- Length of hoses from air control to chuck: 3000 mm
- Inside dia. of hoses from air control to chuck 3/4" (19 mm)




**Cycle clamp BB-N / BB-N ES**

| action | Valve Y1 | Valve Y2 |
|---|---|---|
| clamp / unclamp | clamp | unclamp |
| 1. chuck open | | O |
| 2. chuck clamp | O | |

**O = Valve actuated for jaw movement**

**NOTE:**
All valves, hoses and fittings must be at least:
1/2" inside dia. per function up to chuck size 600
3/4" inside dia. per function on larger chuck sizes

**Cycle standard clamp BB-SC**

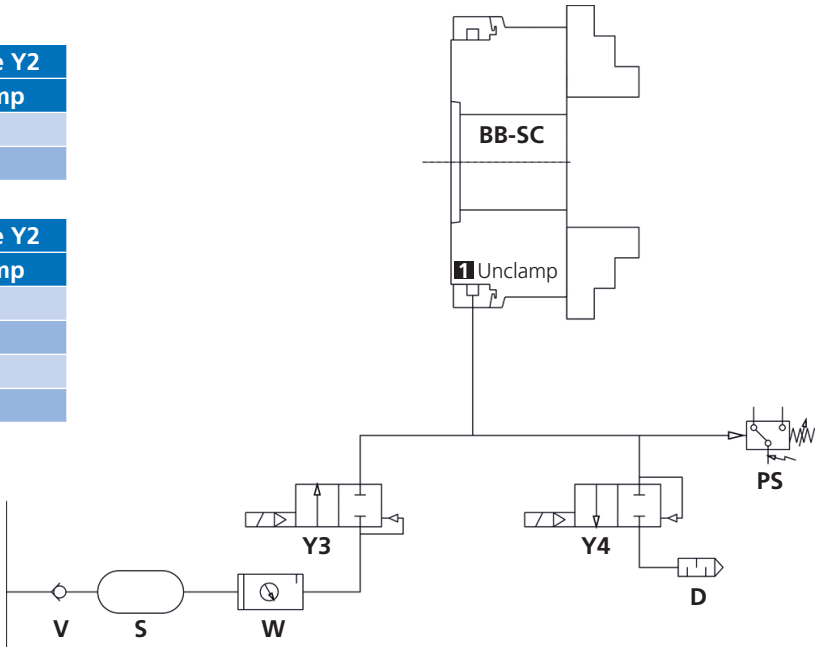
| action | Valve Y1 | Valve Y2 |
|---|---|---|
| clamp / unclamp | unclamp | clamp |
| 1. chuck open | X | |
| 2. chuck clamp | | O |

**Cycle step mode / inching BB-SC**

| action | Valve Y1 | Valve Y2 |
|---|---|---|
| clamp / unclamp | unclamp | clamp |
| 1. chuck open | X | |
| 2. chuck clamp | | O |
| 3. step open | O | |
| 4. step close | | O |

**X = Valve permanently actuated**
**O = Valve actuated for jaw movement**

**NOTE:**
All valves, hoses and fittings must be at least 3/4"




**Pneumatic connection parts for BB-N/-N ES and BB-SC:**

| | |
|---|---|
| **Y1/Y2** | 3/2 solenoid valve 1", min. flowrate 3900 l / min (1031 gallon / min); rec. Type: NL6-SOV; Bosch Rexroth, Germany |
| **Y3/Y4** | 2/2 solenoid valve 3/4", min. flowrate 3100 l / min (819 gallon / min); rec. Type: EGV 121/C78/3/4"BN; AVS Roemer GmbH, Koenigsdorf, Germany |
| **PS** | Pressure switch, 0 - 10 bar, 4 - 20 mA; rec. Type: A-10-6-BG410-HD1Z-AA-AGZ; WIKA, Klingenberg, Germany |
| **Q** | Quick exhaust valves, min. flowrate 6800 l / min (1765 gallon/min) rec. Type: 573, 1"; Bosch Rexroth, Germany |