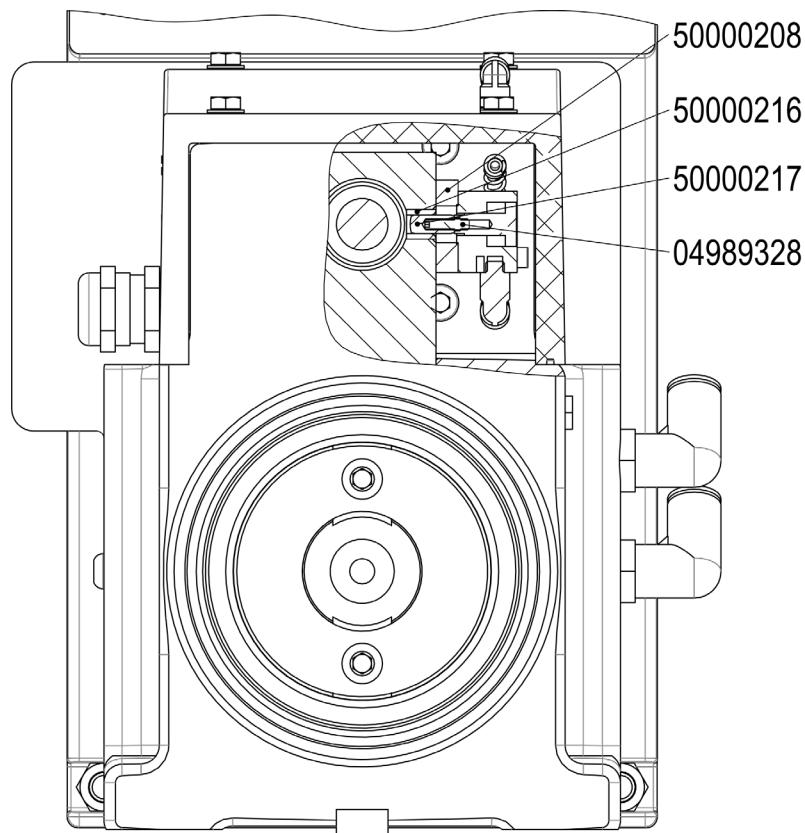
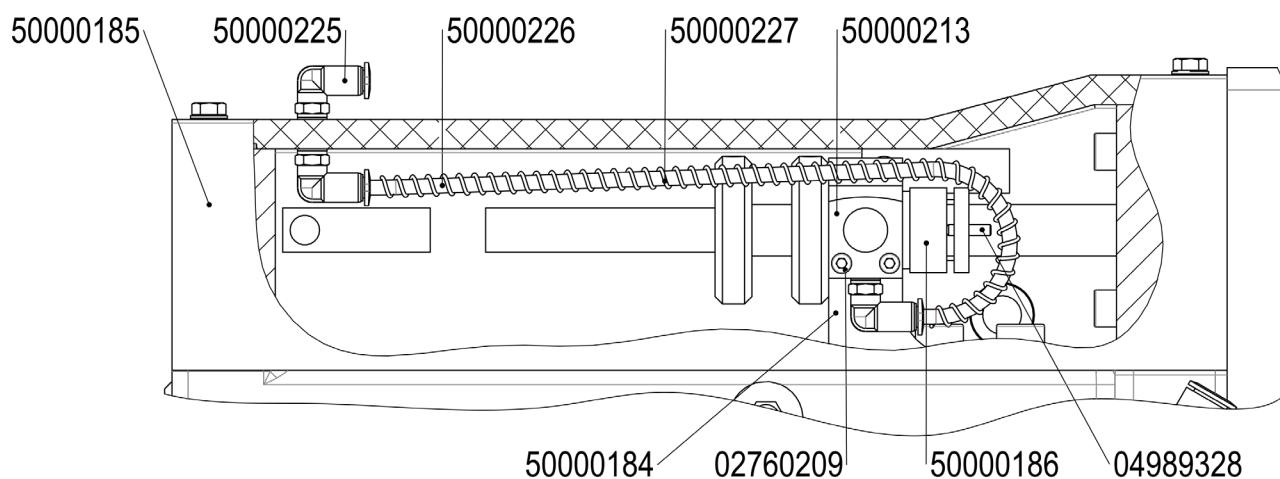


## BEM 20 Options

- DE ORIGINAL-BETRIEBSANLEITUNG
- FR DOSSIER TECHNIQUE  
TRADUCTION DU «ORIGINAL-BETRIEBSANLEITUNG»
- EN TECHNICAL DOCUMENT  
TRANSLATIONS OF THE «ORIGINAL-BETRIEBSANLEITUNG»
- IT MANUALE TECNICO  
TRADUZIONE DELLE «ORIGINAL-BETRIEBSANLEITUNG»
- ES DOCUMENTACIÓN TÉCNICA  
TRADUCCIÓN DEL «ORIGINAL-BETRIEBSANLEITUNG»
- PT MANUAL DE INSTRUÇÕES  
TRADUÇÃO DO «ORIGINAL-BETRIEBSANLEITUNG»

## BEM 20 ES



PEZZI DI RICAMBIO

ITALIANO

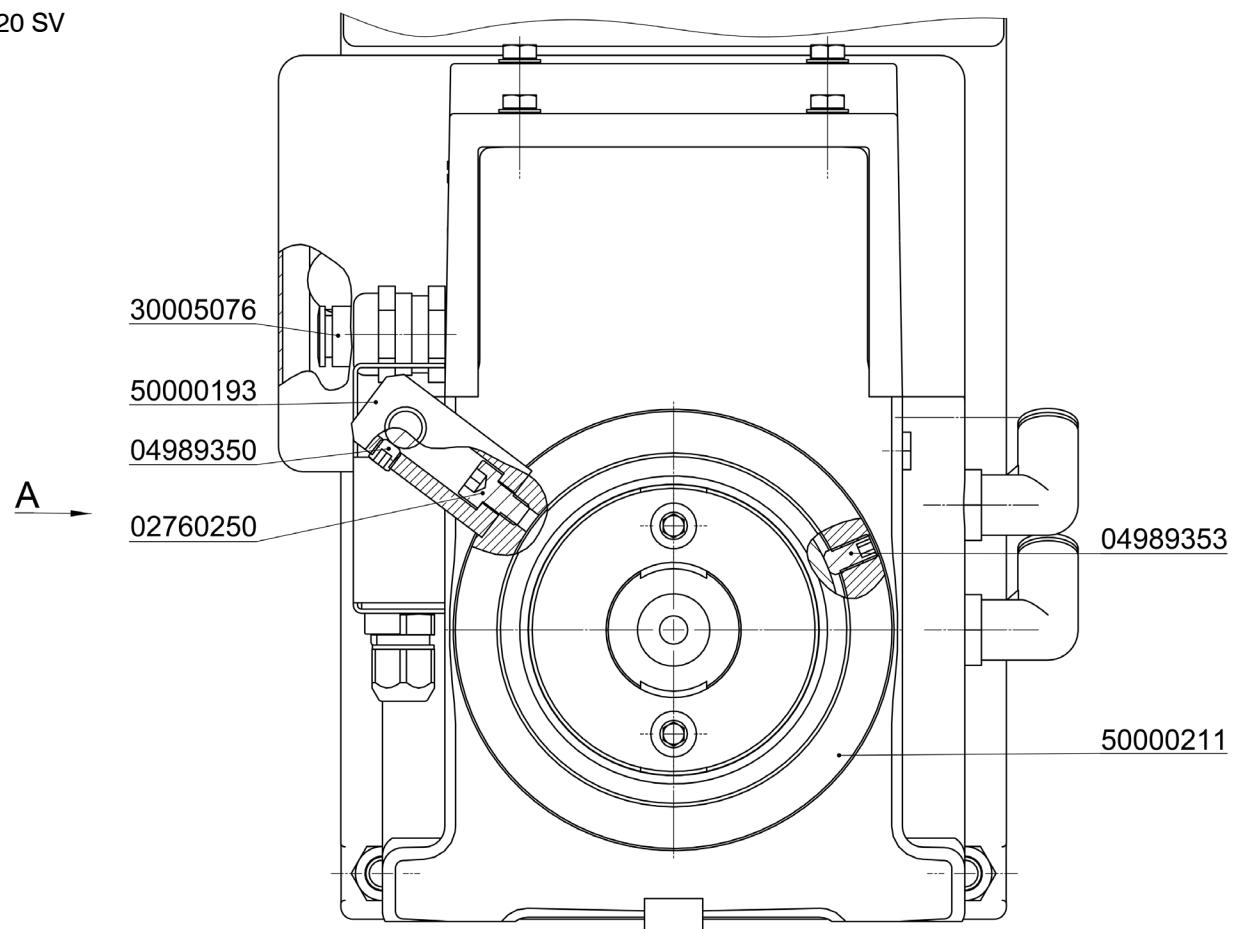
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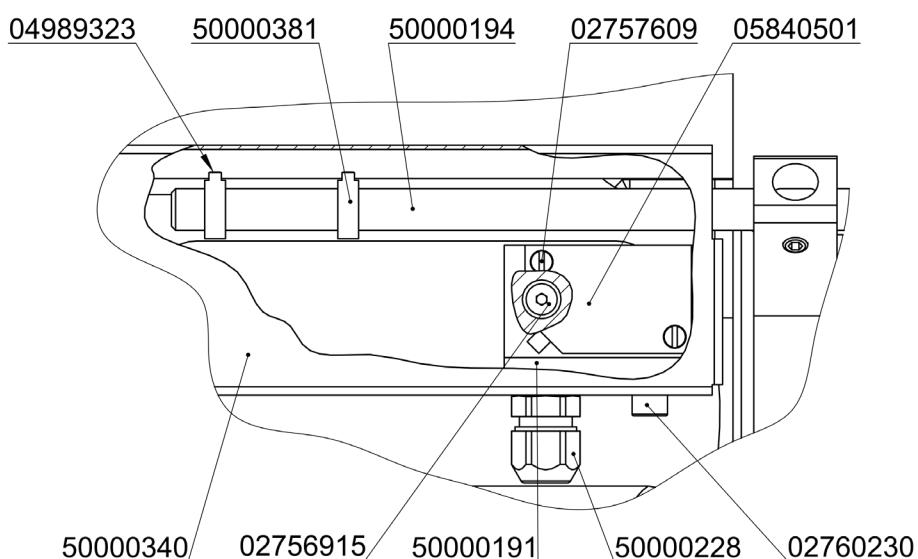
PECAS DE REPOSIÇÃO

PORTUGÚES

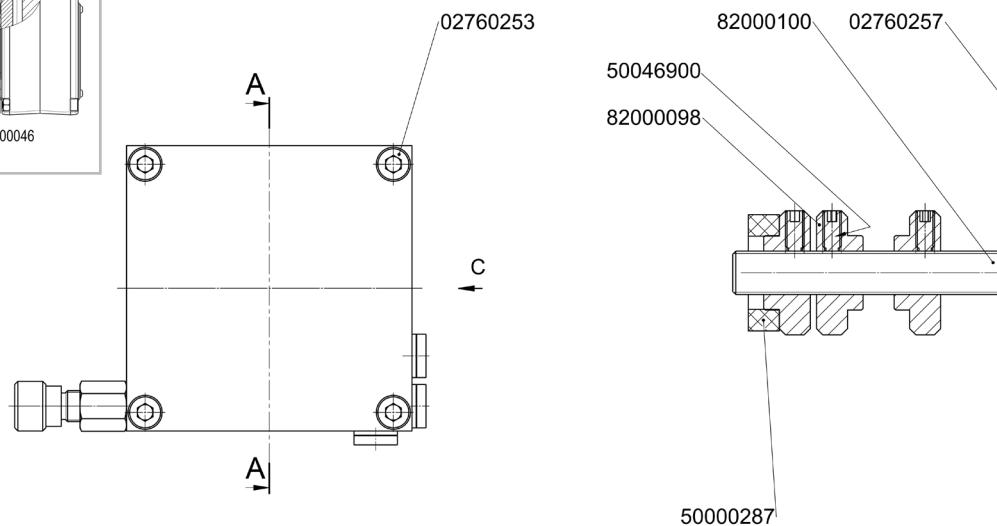
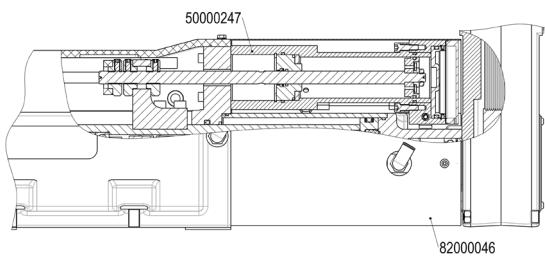
BEM 20 SV



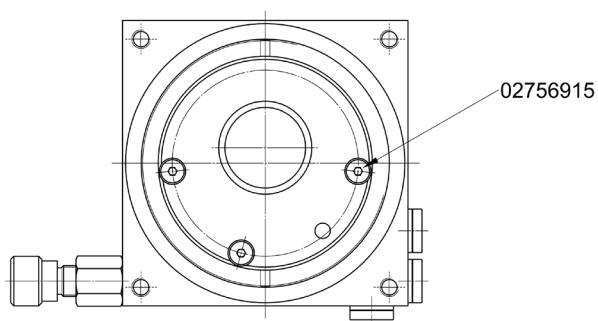
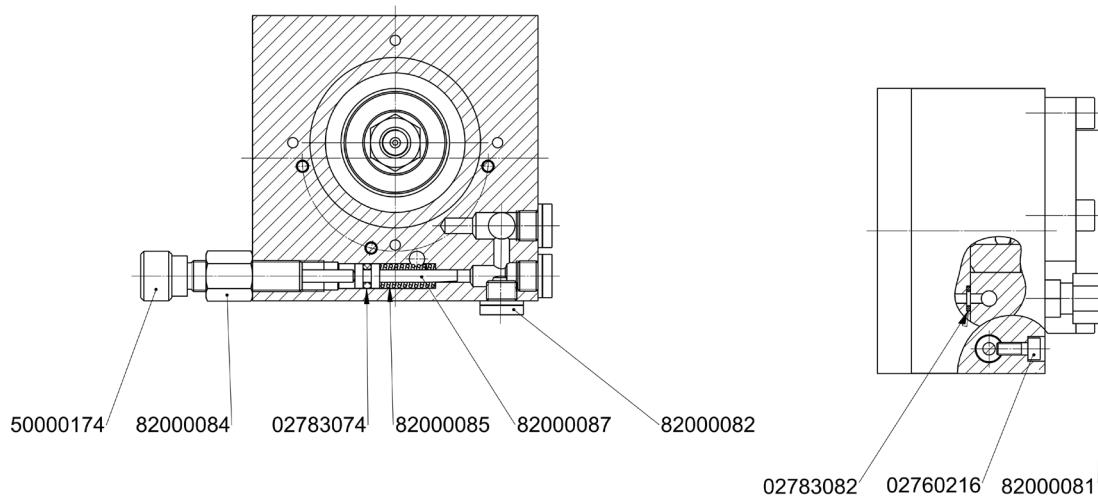
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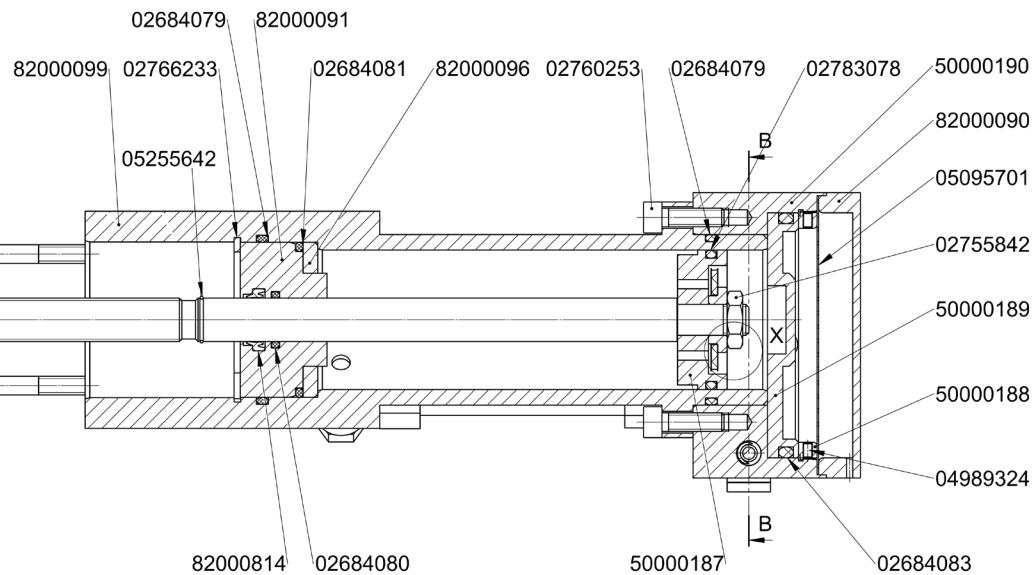
BEM 20 EAU



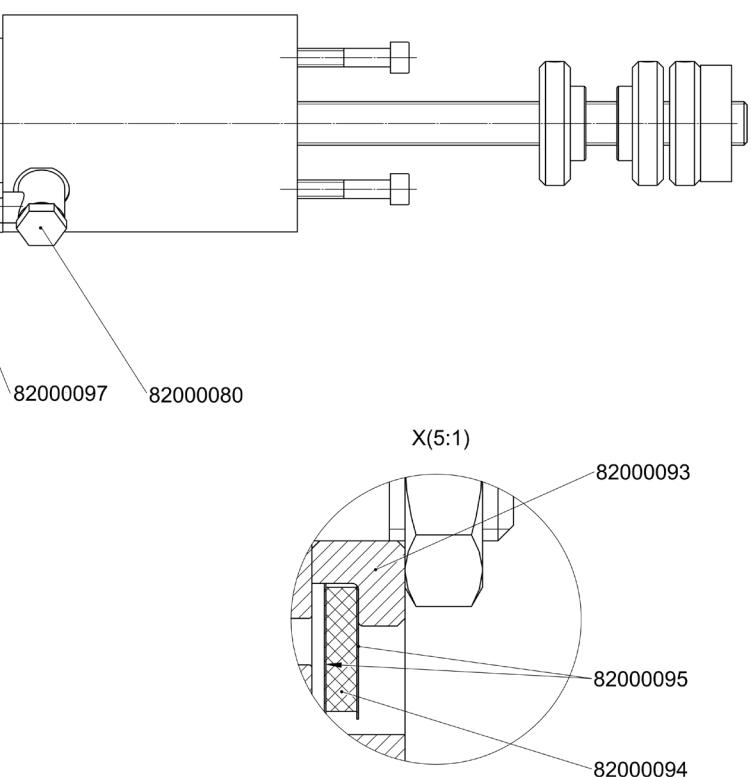
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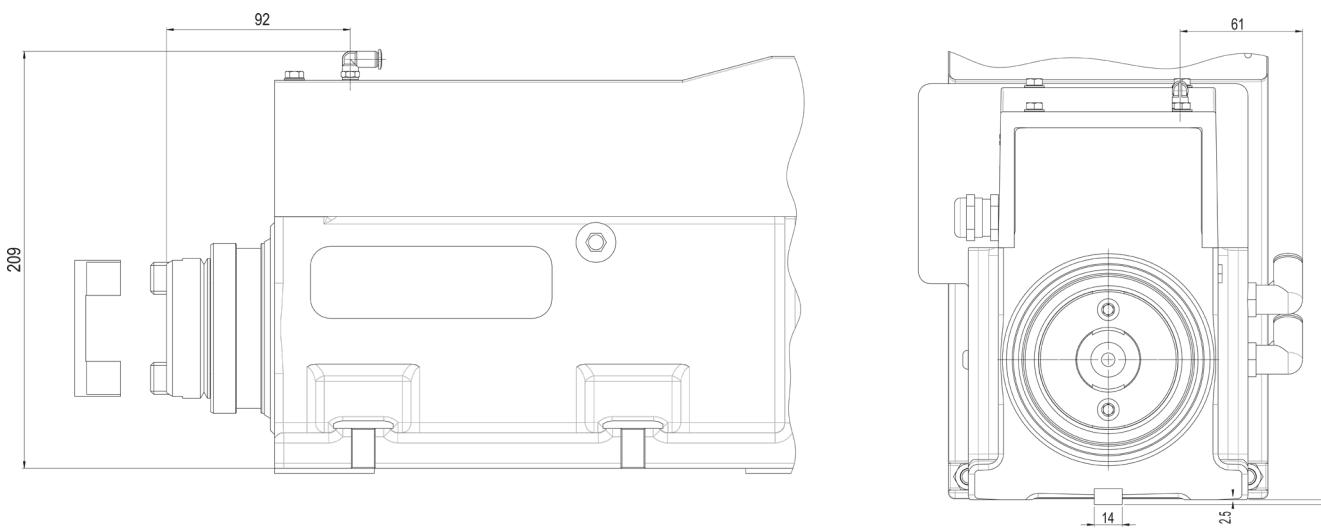
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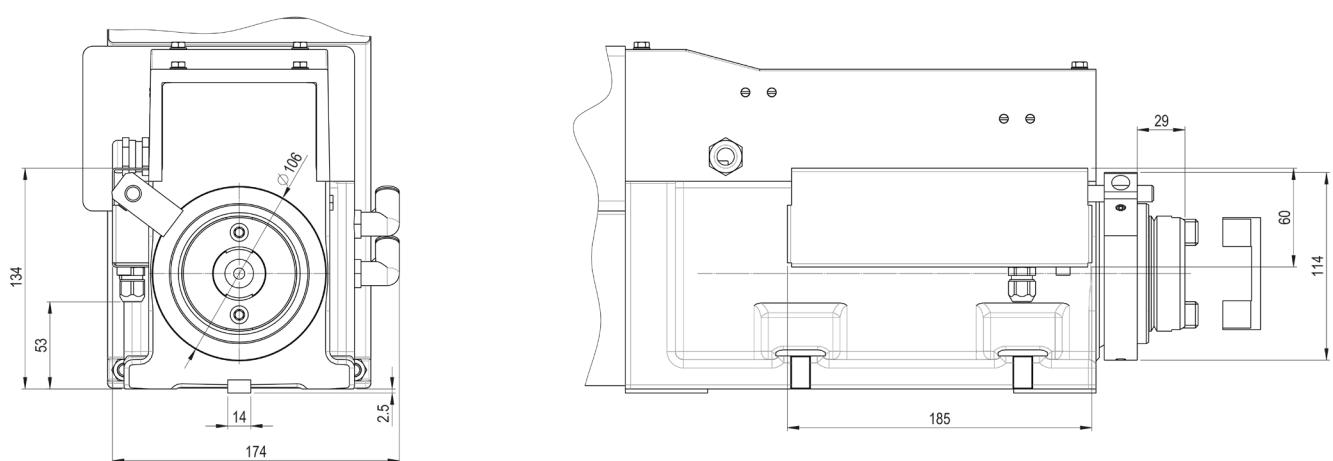
C



BEM 20 ES



BEM 20 SV



PIANO DELLE DIMENSIONI

ITALIANO

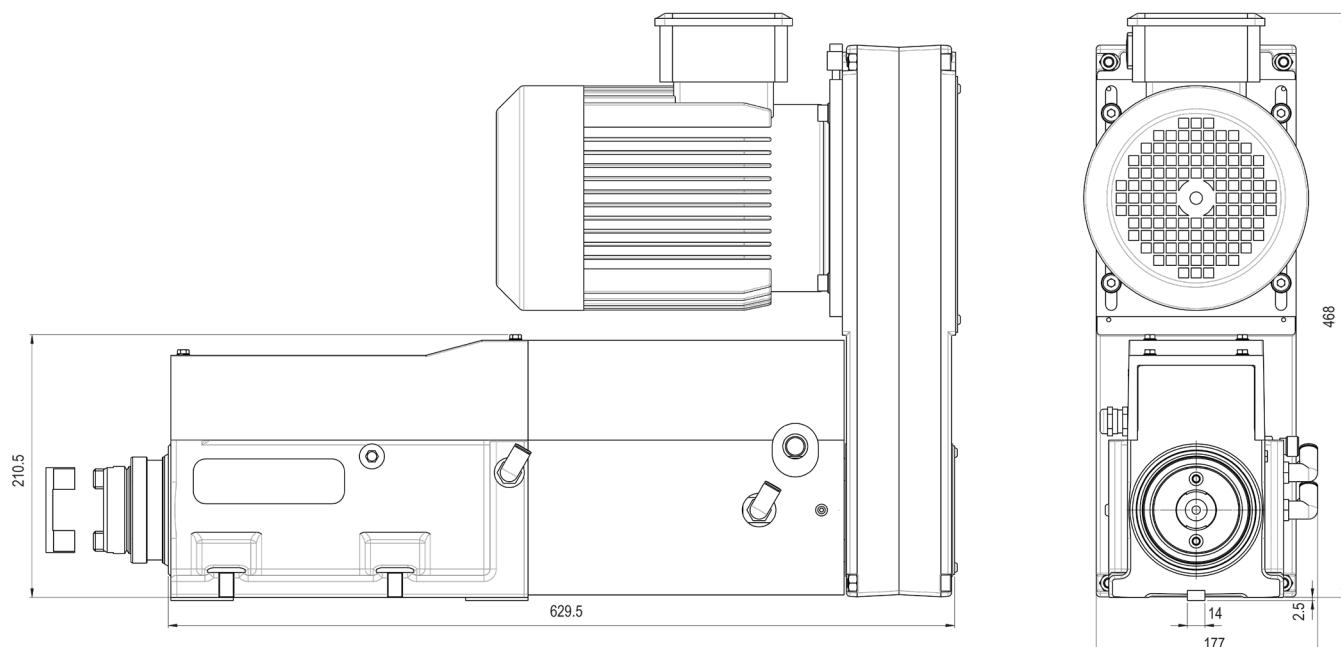
CROQUIS DE DIMENSIONS

ESPAÑOL

CROQUIS COTADO

PO PORTUGUÉS

BEM 20 EAU

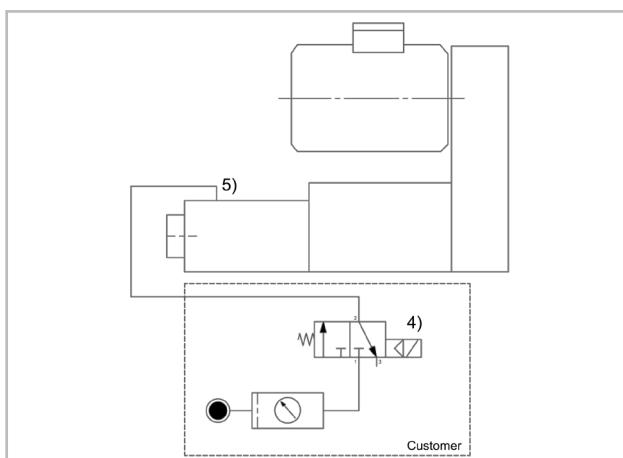


INHALTSVERZEICHNIS		TABLE DES MATIÈRES		CONTENTS		
DEUTSCH		FRANCAIS		ENGLISH		
SEITE		PAGE		PAGE		
1.	BEM 20 ES .....	10	1.	BEM 20 ES .....	14	
1.1	ANSCHLIESSEN DER MASCHINE....	10	1.1	RACCORDEMENT DE LA MACHINE .	14	
1.2	HUBEINSTELLUNG.....	10	1.2	RÉGLAGE DE LA COURSE.....	14	
2.	BEM 20 SV .....	11	2.	BEM 20 SV .....	15	
2.1	ANSCHLIESSEN DER MASCHINE....	11	2.1	RACCORDEMENT DE LA MACHINE .	15	
2.2	HUBEINSTELLUNG.....	11	2.2	RÉGLAGE DE LA COURSE.....	15	
3.	BEM 20 EAU.....	12	3.	BEM 20 EAU.....	16	
3.1	ANSCHLIESSEN DER MASCHINE....	12	3.1	RACCORDEMENT DE LA MACHINE .	16	
3.2	HUBEINSTELLUNG.....	12	3.2	RÉGLAGE DE LA COURSE.....	16	
				1.	BEM 20 ES .....	18
				1.1	CONNECTING THE POWER TO THE MACHINE .....	18
				1.2	SETTING THE STROKE .....	18
				2.	BEM 20 SV .....	19
				2.1	CONNECTING THE POWER TO THE MACHINE .....	19
				2.2	SETTING THE STROKE .....	19
				3.	BEM 20 EAU.....	20
				3.1	CONNECTING THE POWER TO THE MACHINE .....	20
				3.2	SETTING THE STROKE .....	20

ÍNDICE	ÍNDICE	ÍNDICE
ITALIANO	ESPAÑOL	PORTUGUÉS
PÁGINA	PÁGINA	PÁGINA
1. BEM 20 ES .....22	1. BEM 20 ES .....26	1. BEM 20 ES .....30
1.1 ALLACCIMENTO DELLA MACCHINA .....22	1.1 CONEXIÓN DE LA MÁQUINA.....26	1.1 CONEXÃO DA MÁQUINA .....30
1.2 REGOLAZIONE DELLA CORSA .....22	1.2 AJUSTE DE LA CARRERA.....26	1.2 AJUSTE DE TRABALHO.....30
2. BEM 20 SV .....23	2. BEM 20 SV .....27	2. BEM 20 SV .....31
2.1 ALLACCIMENTO DELLA MACCHINA .....23	2.1 CONEXIÓN DE LA MÁQUINA.....27	2.1 CONEXÃO DA MÁQUINA .....31
2.2 REGOLAZIONE DELLA CORSA .....23	2.2 AJUSTE DE LA CARRERA.....27	2.2 AJUSTE DE TRABALHO.....31
3. BEM 20 EAU.....24	3. BEM 20 EAU.....28	3. BEM 20 EAU.....32
3.1 ALLACCIMENTO DELLA MACCHINA .....24	3.1 CONEXIÓN DE LA MÁQUINA.....28	3.1 CONEXÃO DA MÁQUINA .....32
3.2 REGOLAZIONE DELLA CORSA .....24	3.2 AJUSTE DE LA CARRERA.....28	3.2 AJUSTE DO CORSO.....32

## 1. BEM 20 ES

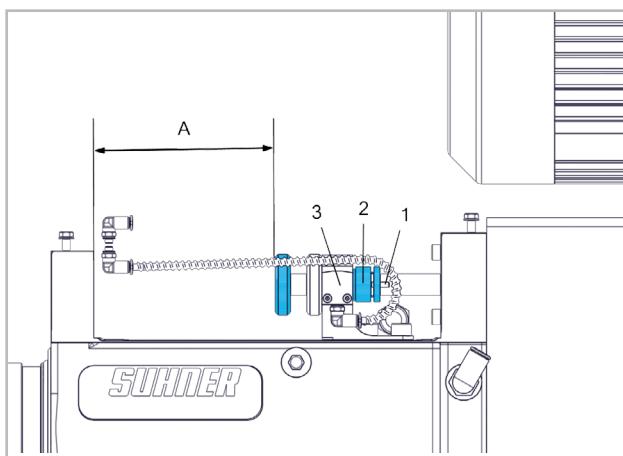
### 1.1 ANSCHLIESSEN DER MASCHINE



3/2-Wegeventil (4). Kurzhubzylinder (Bremszylinder zurück).

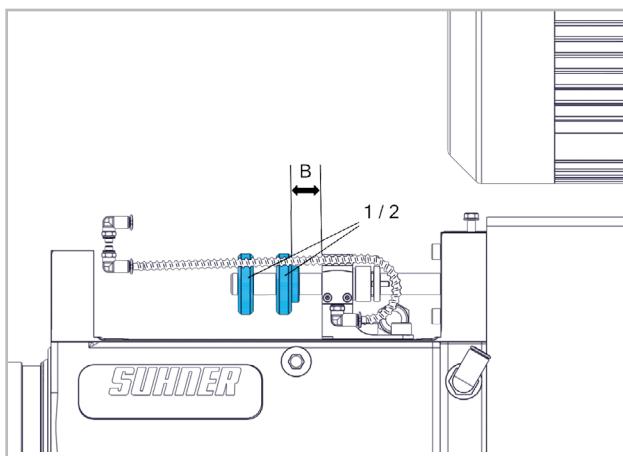
### 1.2 HUBEINSTELLUNG

#### 1.2.1 ARBEITSHUB



Stellschraube (1) lösen und Distanz (2) zurückdrehen. Kolbenstange nach vorne ziehen, bis der gewünschte Arbeitshub A erreicht ist. Distanz (2) vorschrauben bis Distanz am Kurzhubzylinder ansteht. Stellschraube (1) festziehen.

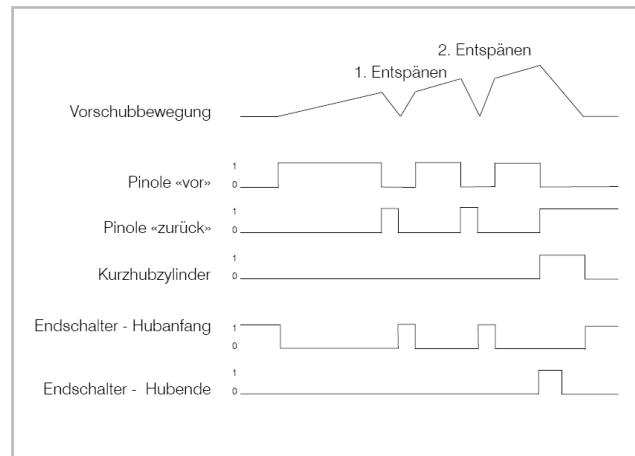
#### 1.2.2 EILHUB



Stellschraube lösen (1). Rändelschraube vor- oder zurückdrehen um den gewünschten Eilhub B zu erhalten. Stellschraube festziehen (2).

#### 1.2.3 STEUERDIAGRAMM

Das Diagramm zeigt die Signalabfolge für eine Bohroperation mit 2 Entspannehüben.

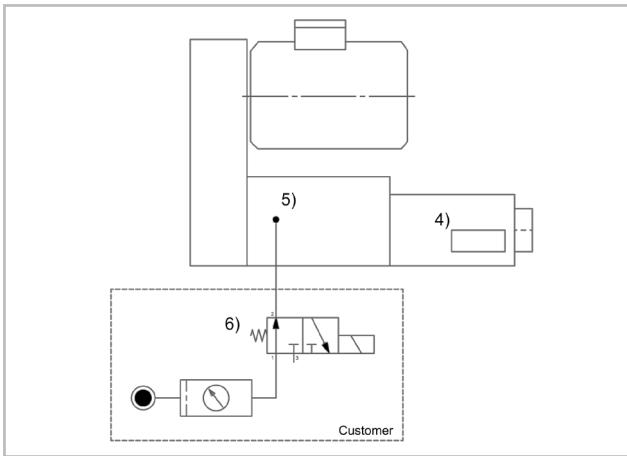


Um beim Rückhub die Kolbenstange in die Startposition zu bewegen, muss während des Rückhubs der Kurzhubzylinder ausgefahren werden. Erst nach Erreichen der Endlage kann dieser wieder eingefahren werden.

## 2. BEM 20 SV

### 2.1 ANSCHLIESSEN DER MASCHINE

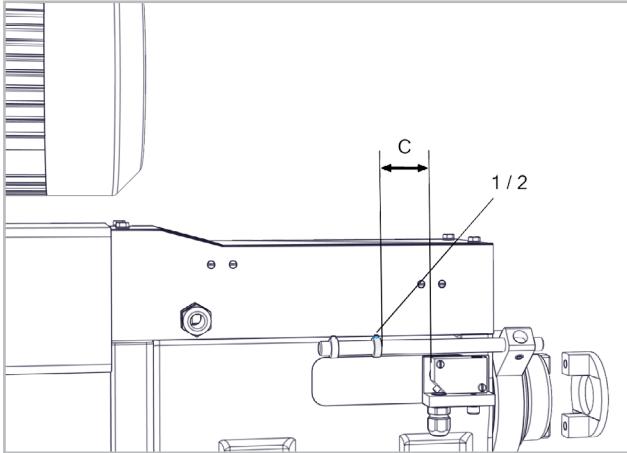
Druckluftanschluss um den Durchfluss des Bremszylin-  
ders zu maximieren und dadurch die Vorschubgeschwin-  
digkeit zu erhöhen. Solange Druck herrscht ist die Brem-  
se aktiv.



Näherungssensor (4). Bremse lösen (Polyurethan-  
schlauch Ø 8mm) (5). 3/2-Wegeventil (6).

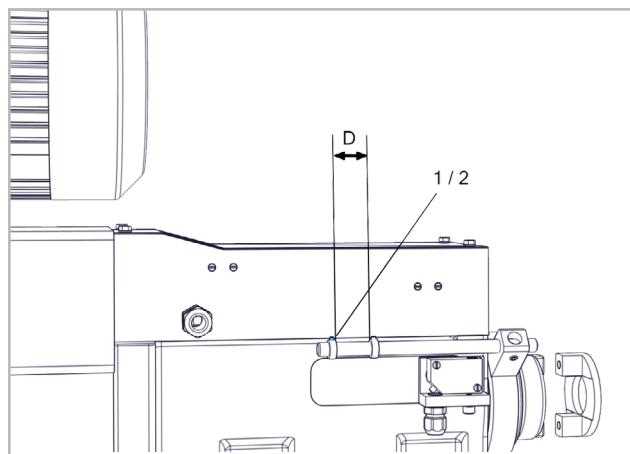
## 2.2 HUBEINSTELLUNG

### 2.2.1 SPRUNG



Stellschraube lösen (1). Schaltnocken vor- oder zu-  
rückschrauben um die gewünschte Startposition C des  
Sprunges zu erhalten. Stellschraube festziehen (2).

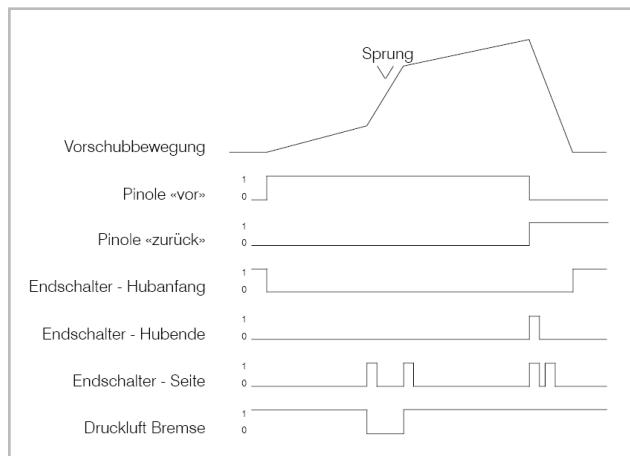
### 2.2.2 EILHUB



Stellschraube lösen (1). Schaltnocken vor- oder zurück-  
schrauben um die gewünschte Sprungweite D zu erhal-  
ten. Stellschraube festziehen (2).

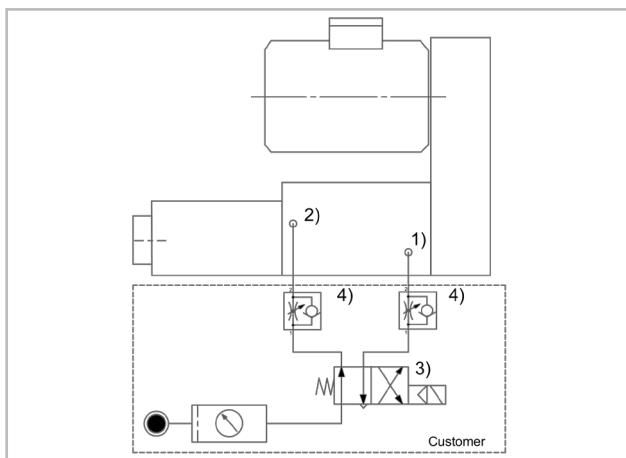
### 2.2.3 STEUERDIAGRAMM

Das Diagramm zeigt die Signalabfolge für eine Bohrope-  
ration mit einem Sprungvorschub.

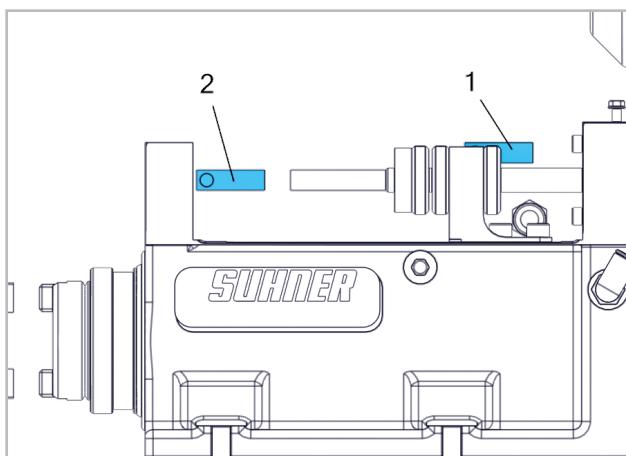


### 3. BEM 20 EAU

#### 3.1 ANSCHLIESSEN DER MASCHINE



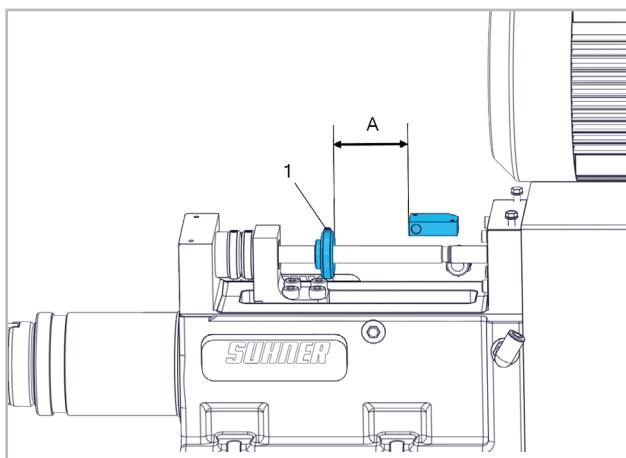
Rückhub «Zurück» (1), Polyurethan-Schlauch ø6/ø8 mm.  
Arbeitshub «Vor» (2), Polyurethan-Schlauch ø6/ø8 mm.  
4/2-Wegeventil (3). Drosselrückschlagventil (4).



Schalter am «ENDE» des Hubes (1). Schalter am «ANFANG» des Hubes (2).

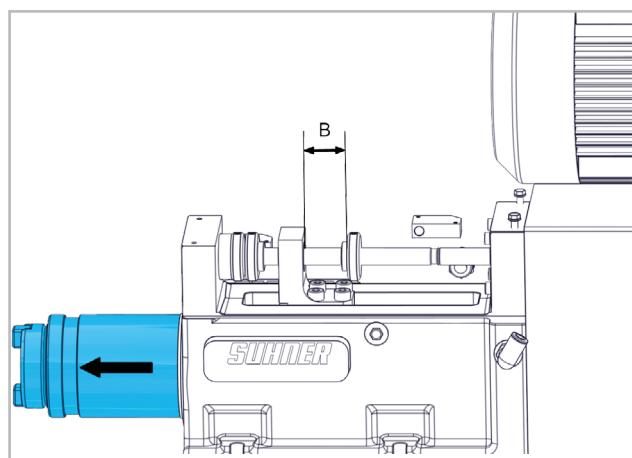
#### 3.2 HUBEINSTELLUNG

##### 3.2.1 ARBEITSHUB

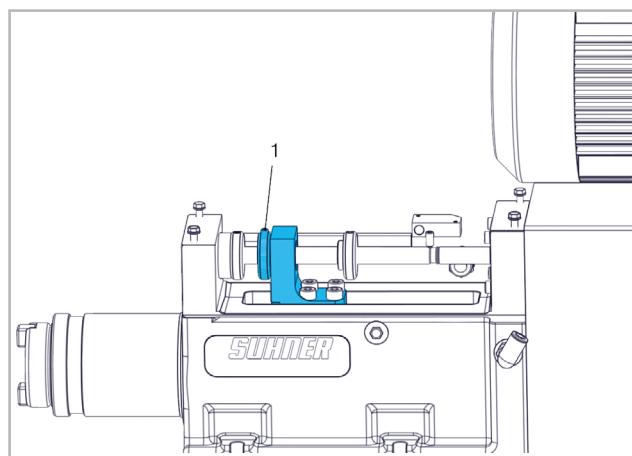


Stellschraube (1) lösen. Rändelmutter vor- oder zurückbewegen, bis der gewünschte Arbeitshub A erreicht ist.  
Stellschraube festziehen (1).

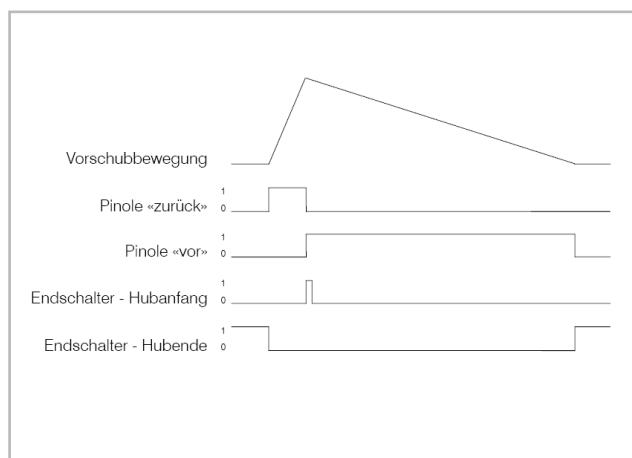
#### 3.2.2 EILHUB



Pinole an die gewünschte Startposition bzw. Eilgangposition B bewegen.



Stellschraube (1) lösen. Rändelmutter bis an den Mitnehmer schrauben. Stellschraube festziehen (1).



Das Diagramm zeigt die Signalabfolge für eine Bohroperation mit Eil-/Arbeitshub umgekehrt.

[Portugués](#)

[English](#)

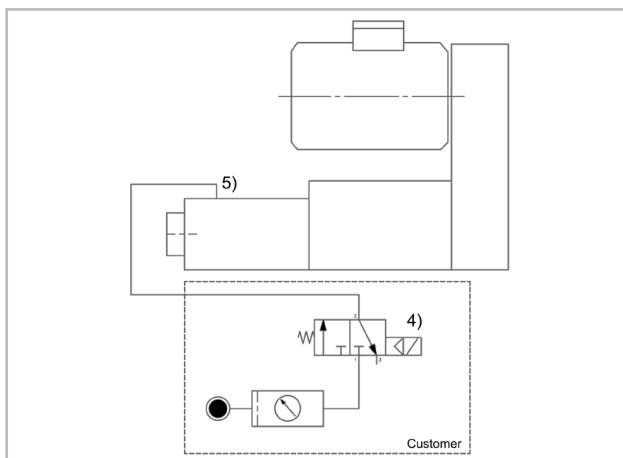
[Italiano](#)

[Français](#)

[Deutsch](#)

## 1. BEM 20 ES

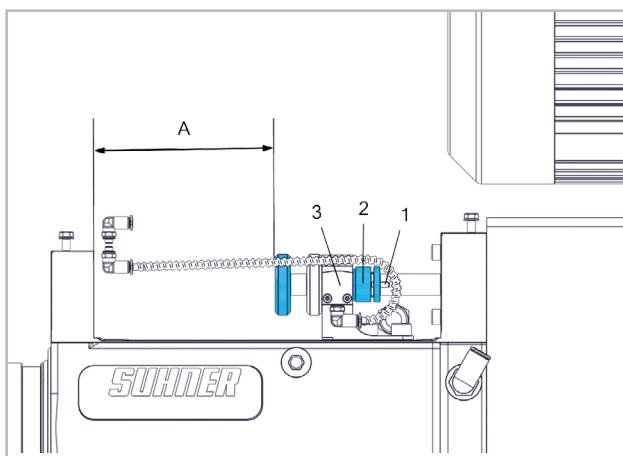
### 1.1 RACCORDEMENT DE LA MACHINE



Distributeur 3/2 (4). Vérin à faible course (Cylindre de frein retour).

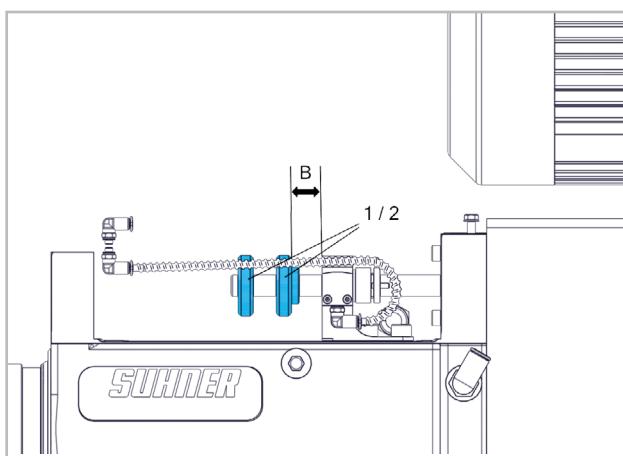
### 1.2 RÉGLAGE DE LA COURSE

#### 1.2.1 COURSE DE TRAVAIL



Desserrer la vis de réglage (1) et reculer l'entretoise (2). Tirer la tige de piston vers l'avant jusqu'à atteindre la course de travail souhaitée A. Avancer l'entretoise (2) jusqu'à atteindre le vérin à faible course. Serrer la vis de réglage (1).

#### 1.2.2 EILHUB

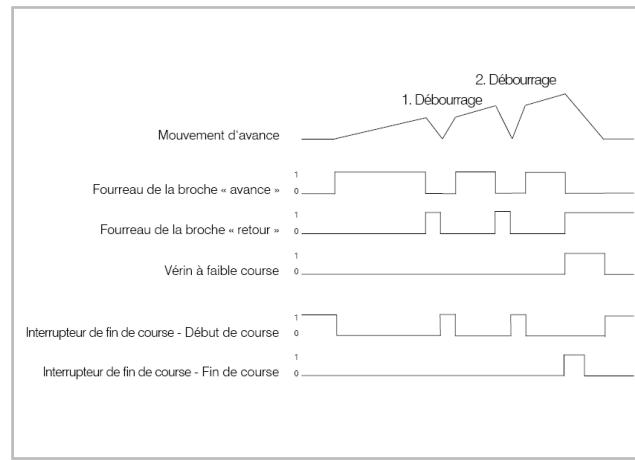


Desserrer la vis de réglage (1). Avancer ou reculer la vis

moletée pour obtenir la course rapide souhaitée B. Serrer la vis de réglage (2).

#### 1.2.3 DIAGRAMME DE COMMANDE

Le diagramme montre la suite de signaux pour une opération de perçage comprenant 2 courses d'évacuation des copeaux.

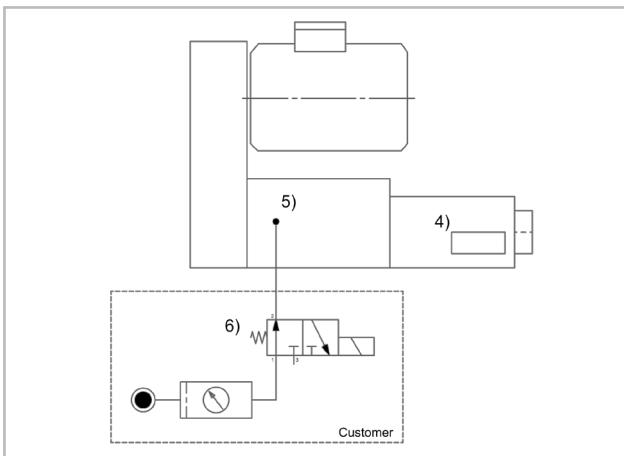


Pour déplacer la tige de piston en position de départ lors du recul, il faut que le vérin à faible course soit sorti pendant le recul. Celui-ci ne pourra se rétracter qu'après avoir atteint la position finale.

## 2. BEM 20 SV

### 2.1 RACCORDEMENT DE LA MACHINE

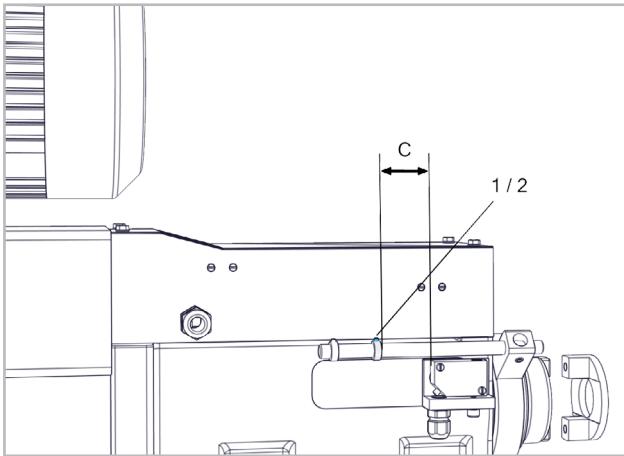
Raccordement de l'air comprimé pour maximiser le débit du vérin de freinage et ainsi augmenter la vitesse d'avance. Tant que la pression règne, le frein est actif.



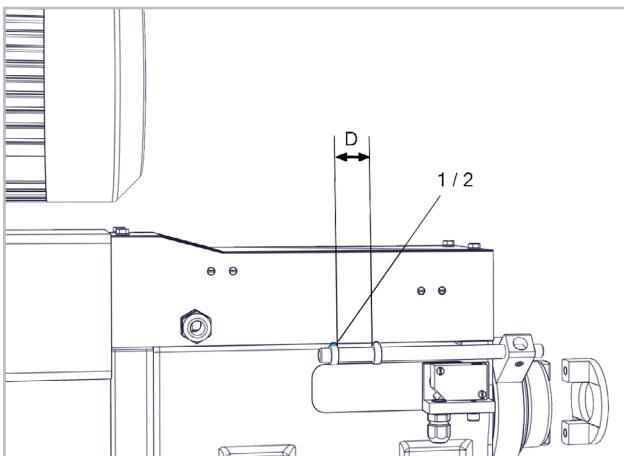
Capteur de proximité (4). Relâchez le frein (Tuyau polyuréthane Ø 8mm) (5). Distributeur 3/2 (6).

### 2.2 RÉGLAGE DE LA COURSE

#### 2.2.1 SAUT



Desserrer la vis de réglage (1). Avancer ou reculer les cames de commutation pour obtenir la position C de départ souhaitée du saut. Serrer la vis de réglage (2).

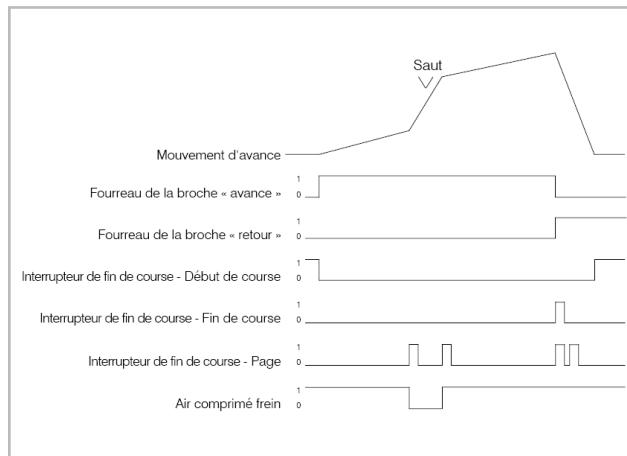


Desserrer la vis de réglage (1). Avancer ou reculer les

cames de commutation pour obtenir l'amplitude de saut souhaitée D. Serrer la vis de réglage (2).

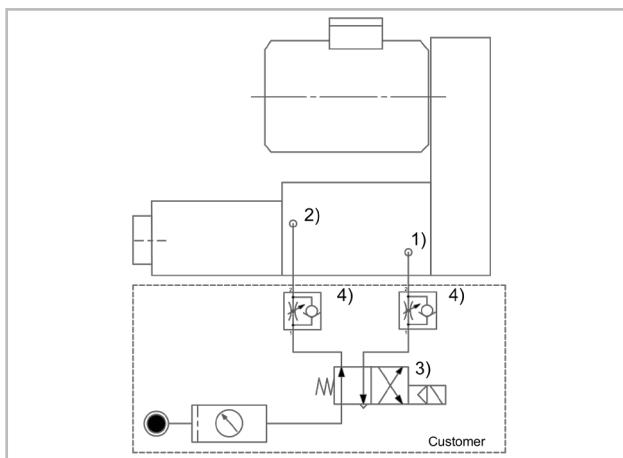
#### 2.2.2 DIAGRAMME DE COMMANDE

Le diagramme montre la suite de signaux pour une opération de perçage comprenant une avance discontinue.

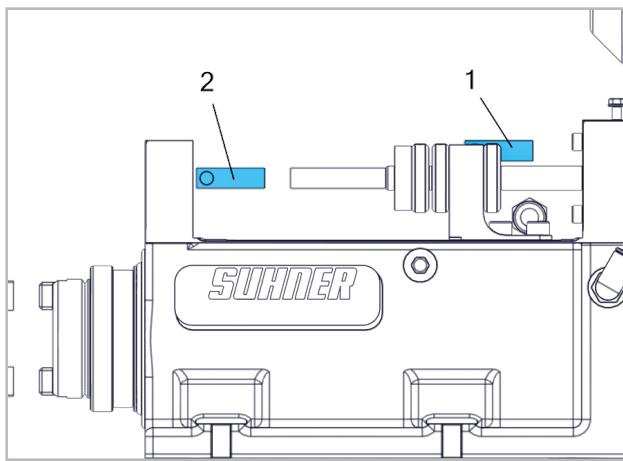


### 3. BEM 20 EAU

#### 3.1 RACCORDEMENT DE LA MACHINE



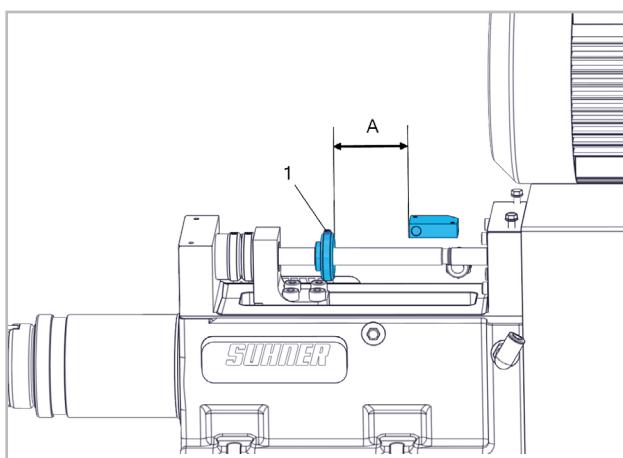
Course de retour « Retour » (1), tuyau polyuréthane ø6/ø8 mm. Course de travail « Avance » (2), tuyau polyuréthane ø6/ø8 mm. Distributeur 4/2 (3). Clapet anti-retour avec étranglement (4).



Détecteur fin de course « ARRIÈRE » (1). Détecteur fin de course « AVANT » (2).

#### 3.2 RÉGLAGE DE LA COURSE

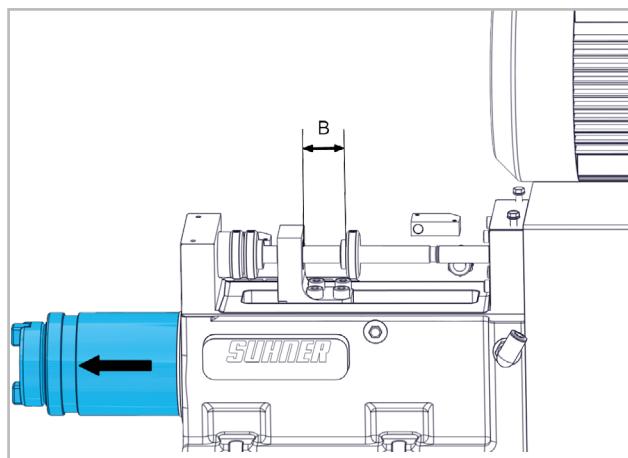
##### 3.2.1 COURSE DE TRAVAIL



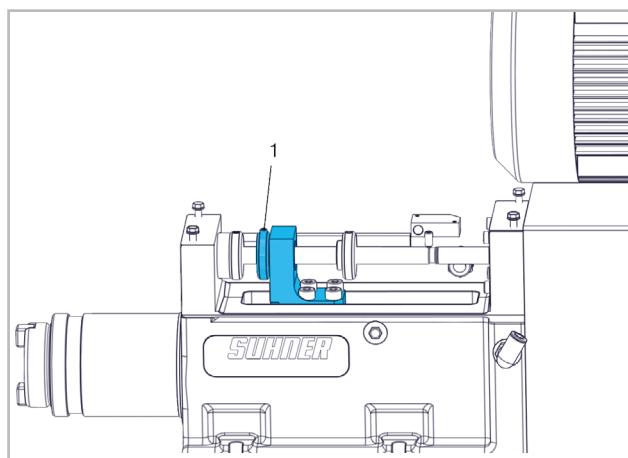
Desserrer la vis de réglage. Avancer ou reculer la vis moletée jusqu'à atteindre la course de travail souhaitée A.

Serrer la vis de réglage (1).

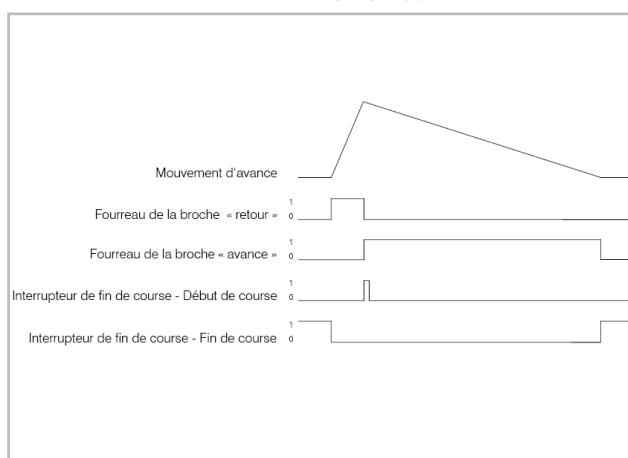
##### 3.2.2 COURSE RAPIDE



Déplacer le fourreau dans la position de départ souhaitée ou la position de vitesse rapide B.



Desserrer la vis de réglage. Visser l'écrou moleté jusqu'à l'entraîneur. Serrer la vis de réglage (1).



La diagramme montre la suite de signaux pour une opération de perçage comprenant course rapide/de travail inversé.

**Português**

**Italiano**

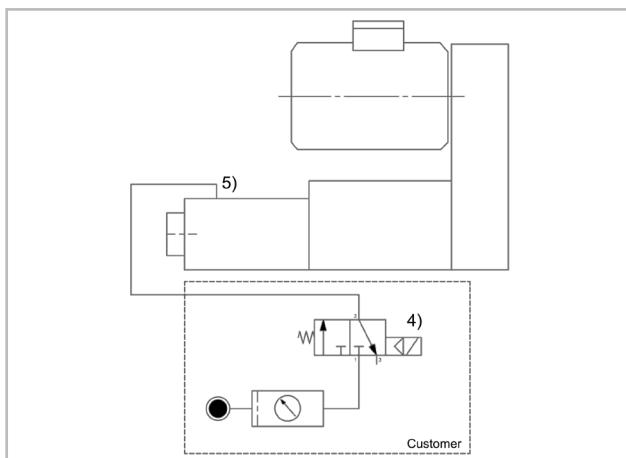
**English**

**Deutsch**

**Français**

## 1. BEM 20 ES

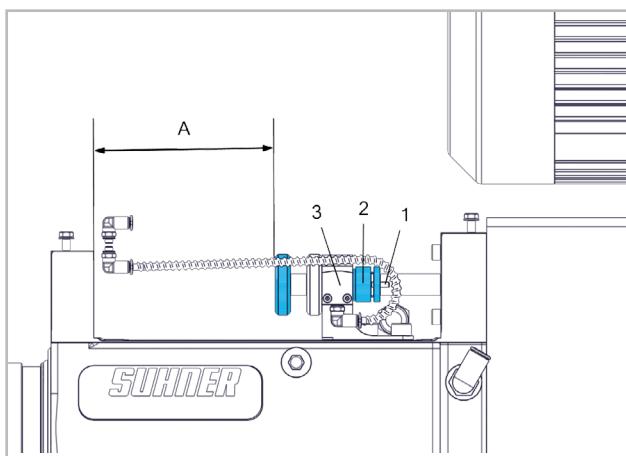
### 1.1 CONNECTING THE POWER TO THE MACHINE



3/2 way valve (4). Short stroke cylinder (Brake cylinder back).

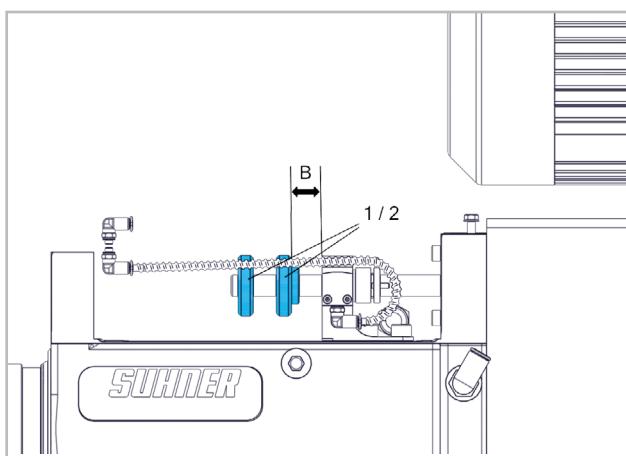
### 1.2 SETTING THE STROKE

#### 1.2.1 WORKING STROKE



Loosen the setscrew (1), and screw the spacer (2) back. Pull the piston rod forwards to the working stroke A you want. Advance the spacer (2) until it reaches the short stroke cylinder. Tighten the setscrew (1).

#### 1.2.2 RAPID STROKE

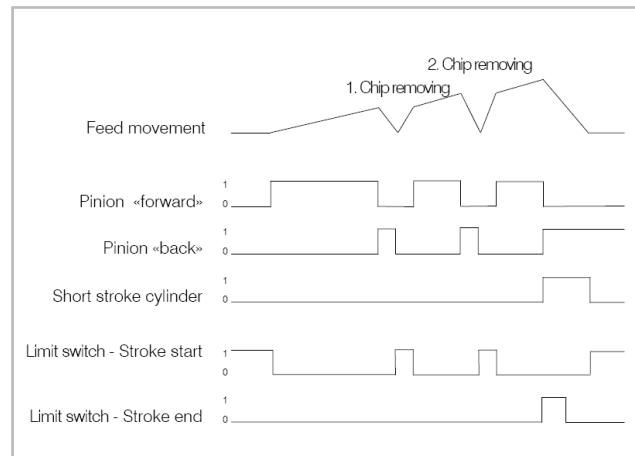


Loosen the setscrew (1). Turn the knurled screw clockwise

or anticlockwise until you obtain the rapid stroke B you want. Tighten the setscrew (2).

### 1.2.3 CONTROL DIAGRAM

The diagram shows the sequence of signals for a drilling operation with two chip removing strokes.

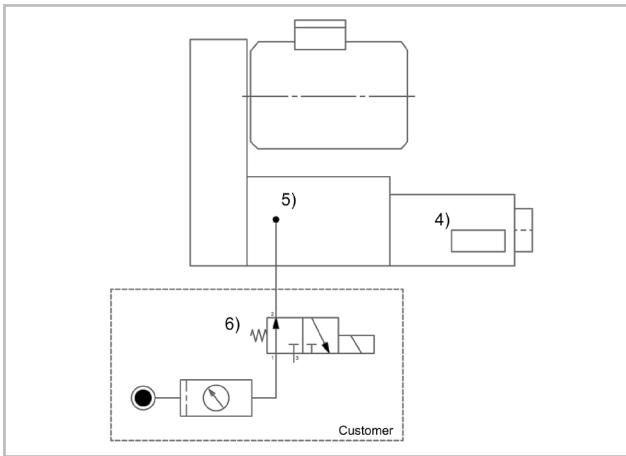


So that the piston rod can return to the starting position, the short stroke cylinder must be advanced during the return stroke. This cannot be retracted until the end position has been reached.

## 2. BEM 20 SV

### 2.1 CONNECTING THE POWER TO THE MACHINE

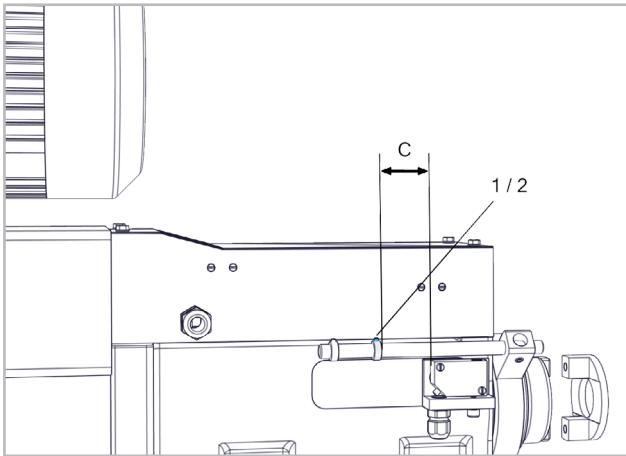
The compressed air connection maximises the flow through the brake cylinder, and so raises the feed rate. As long as pressure prevails, the brake is active.



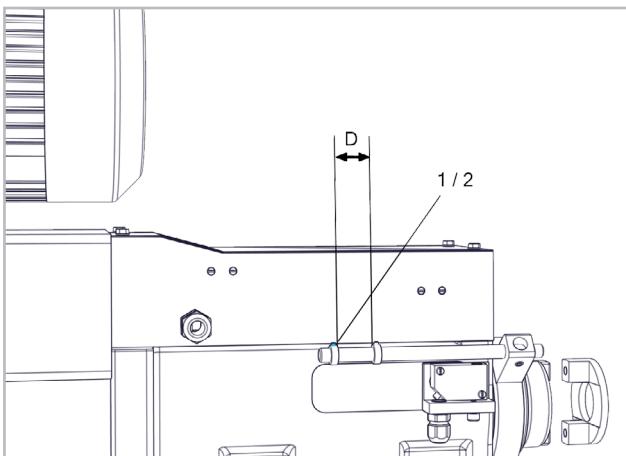
Proximity sensor (4). Release the brake (Polyurethane hose Ø 8mm) (5). 3/2 way valve (6).

### 2.2 SETTING THE STROKE

#### 2.2.1 JUMP



Loosen the setscrew (1). Screw the trip cams clockwise or anticlockwise to the starting position C you want for the skip. Tighten the setscrew (2).

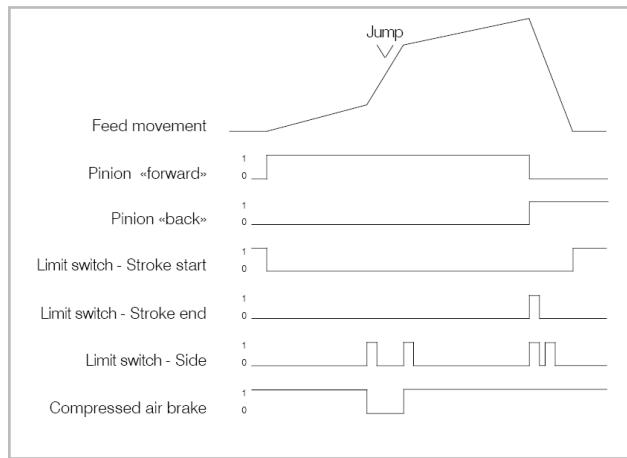


Loosen the setscrew (1). Screw the trip cams clockwise

or anticlockwise to the skip distance D you want. Tighten the setscrew (2).

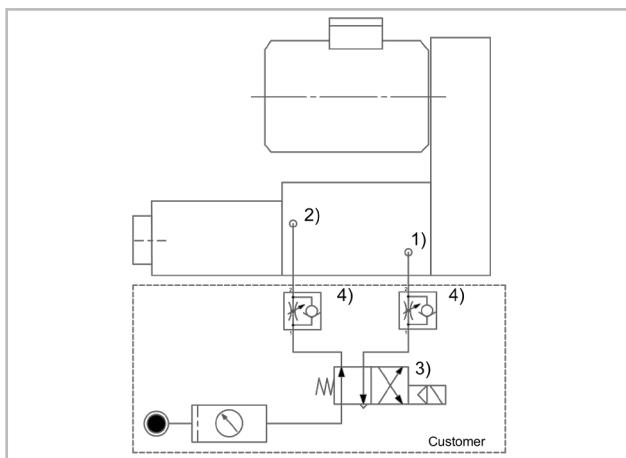
#### 2.2.2 CONTROL DIAGRAM

The diagram shows the sequence of signals for a drilling operation with a skip feed.

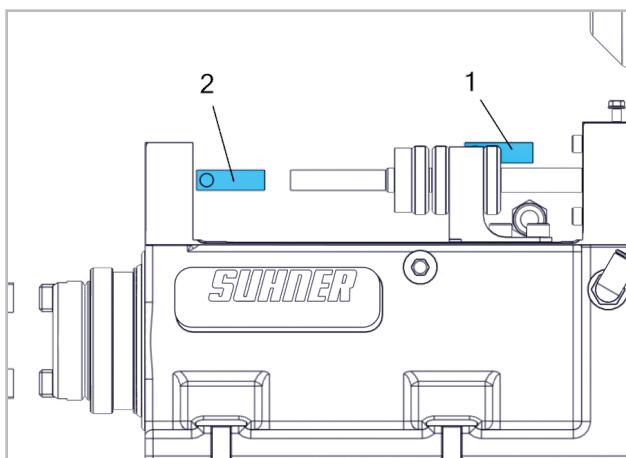


### 3. BEM 20 EAU

#### 3.1 CONNECTING THE POWER TO THE MACHINE



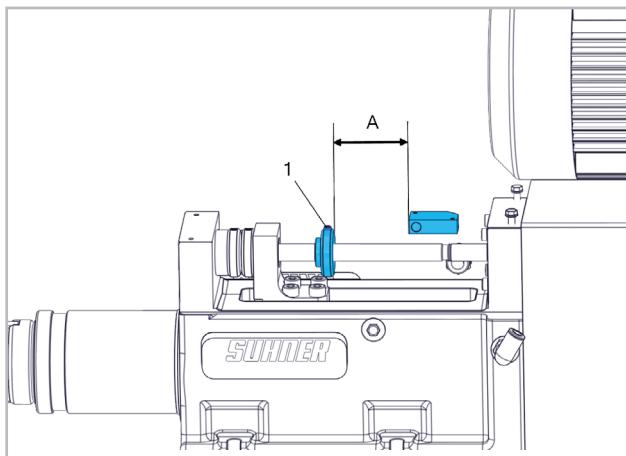
Return stroke «Back» (1), polyurethane hose ø6/ø8 mm. Working stroke «Forward» (2), polyurethane hose ø6/ø8 mm. 4/2 way valve (3). Throttle check valve (4).



End of «FORWARD» stroke sensor (1). End of «BACK» stroke sensor (2).

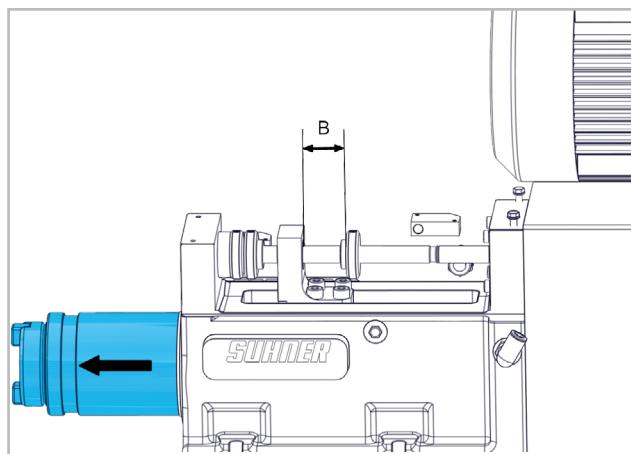
#### 3.2 SETTING THE STROKE

##### 3.2.1 WORKING STROKE

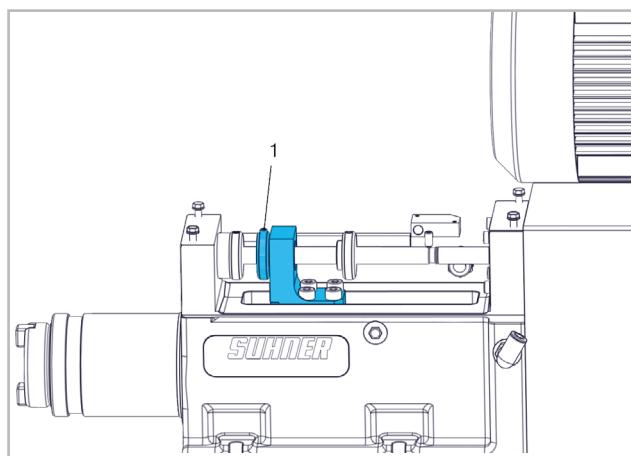


Desserrer la vis de réglage. Avancer ou reculer la vis moletée jusqu'à atteindre la course de travail souhaitée A. Serrer la vis de réglage (1).

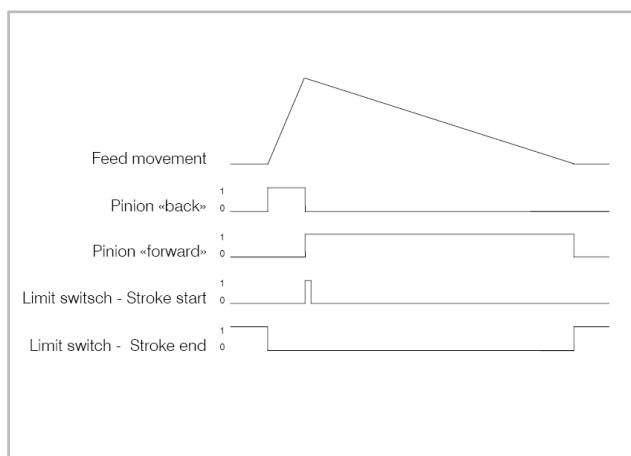
##### 3.2.2 RAPID STROKE



Move the spindle to the starting or rapid traverse position B you want.



Loosen the setscrew. Screw the knurled nut up to the driver. Tighten the setscrew (1).



The diagram shows the sequence of signals for a drilling operation with rapid/working stroke reverse.

[Portugués](#)

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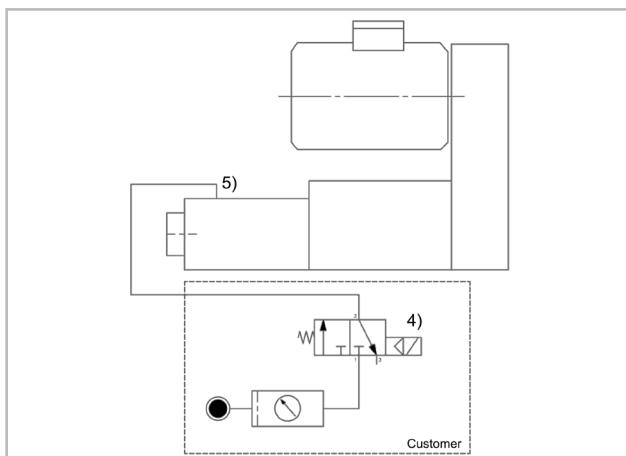
[English](#)

[Français](#)

[Deutsch](#)

## 1. BEM 20 ES

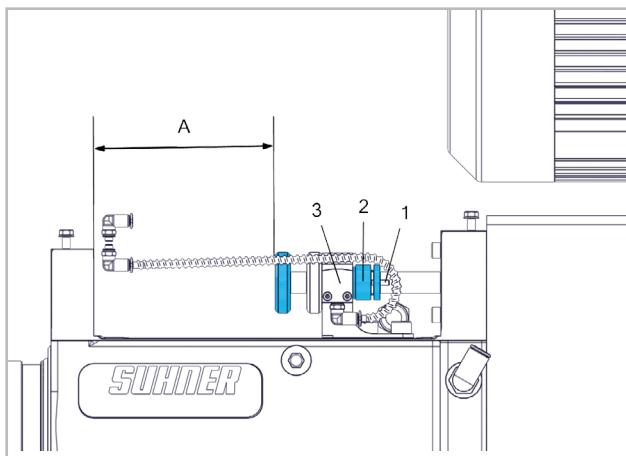
### 1.1 ALLACCIAIMENTO DELLA MACCHINA



Valvola a 3/2 vie (4). Cilindro a corsa breve (Ammortizzatore di vibrazioni indietro).

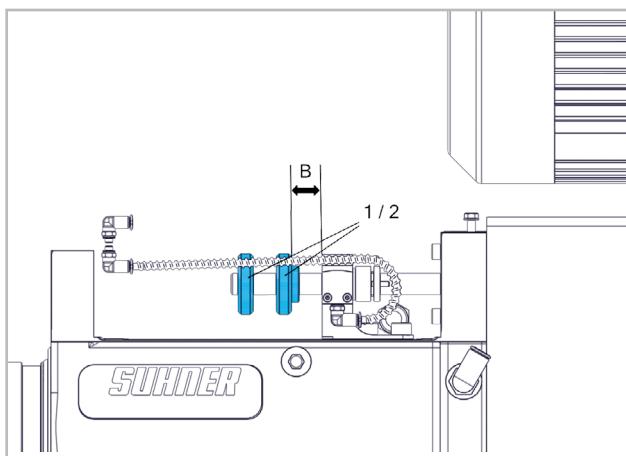
### 1.2 REGOLAZIONE DELLA CORSA

#### 1.2.1 CORSA DI LAVORO



Allentare la vite di regolazione (1) e svitare il distanziatore (2). Tirare in avanti la biella fino a quando non viene raggiunta la posizione di lavoro desiderata A. Avvitare il distanziatore (2) fino a quando questo non poggia sul cilindro a corsa breve. Serrare la vite di regolazione (1).

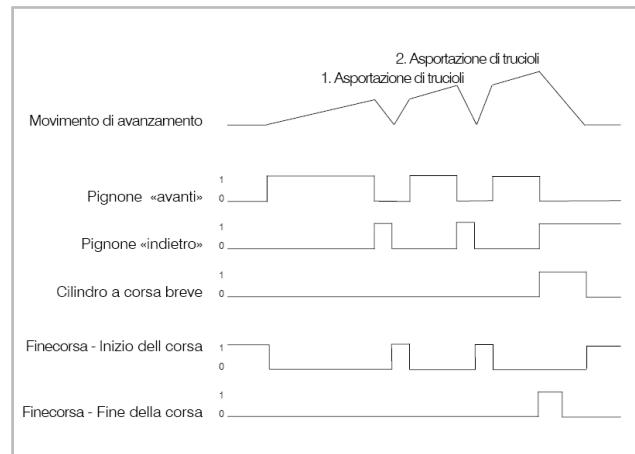
#### 1.2.2 CORSA VELOCE



Allentare la vite di regolazione (1). Avvitare o svitare la vite a testa zigrinata per ottenere la corsa veloce desiderata B. Serrare la vite di regolazione (2).

#### 1.2.3 DIAGRAMMA DI COMANDO

Il diagramma mostra la serie di segnali per un'operazione di foratura con 2 corse di asportazione dei trucioli.

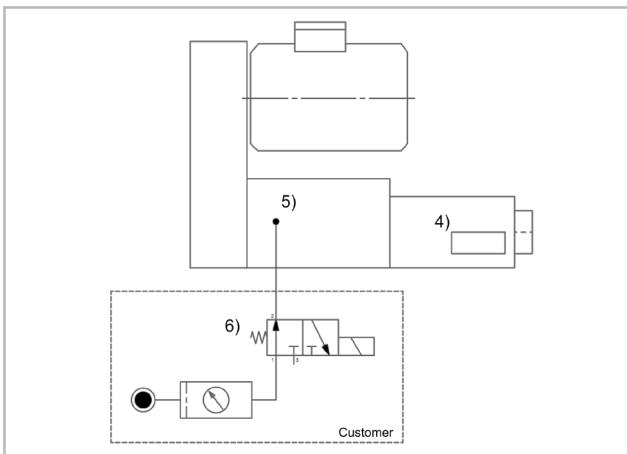


Per spostare la biella nella posizione di partenza con la corsa di ritorno, è necessario estrarre il cilindro a corsa breve durante la corsa di ritorno stessa. Solo dopo aver raggiunto la posizione di battuta è possibile inserirlo nuovamente.

## 2. BEM 20 SV

### 2.1 ALLACCIAIMENTO DELLA MACCHINA

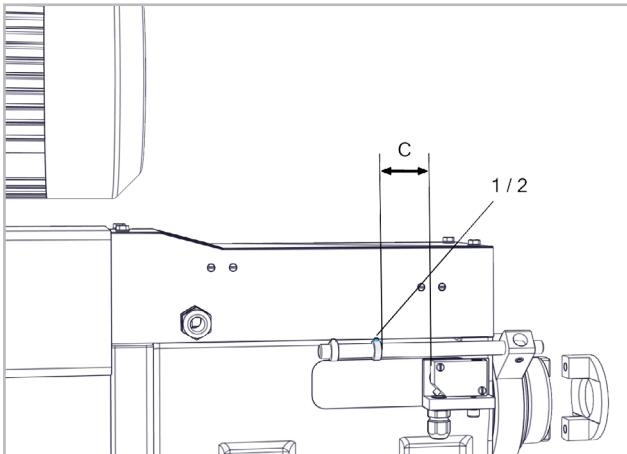
Raccordo aria compressa per massimizzare il flusso dell'ammortizzatore di vibrazioni e, quindi, per aumentare la velocità di avanzamento. Fintanto che la pressione prevale, il freno è attivo.



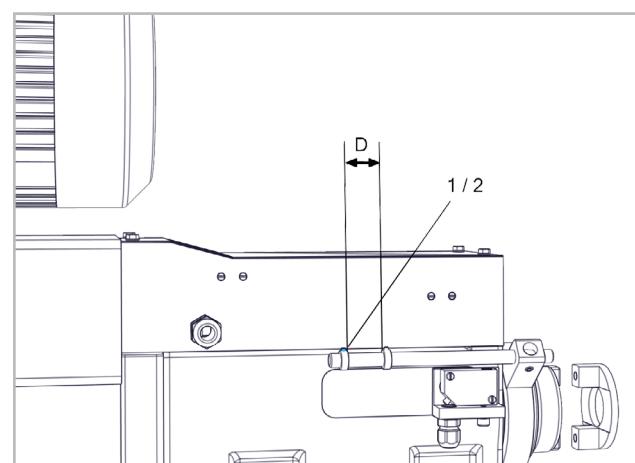
Sensore di avvicinamento (4). Rilasciare il freno (Tubo flessibile in poliuretano Ø 8mm) (5). Valvola a 3/2 vie (6).

### 2.2 REGOLAZIONE DELLA CORSA

#### 2.2.1 SALTARE



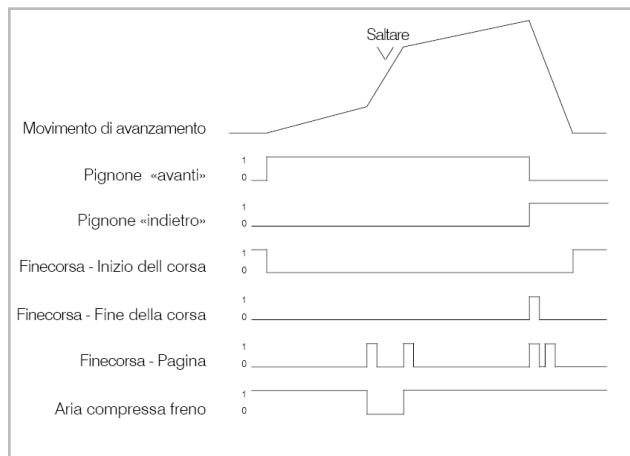
Allentare la vite di regolazione (1). Avvitare o svitare le camme di contattore per ottenere la posizione di partenza desiderata C dello scatto. Serrare la vite di regolazione (2).



Allentare la vite di regolazione (1). Avvitare o svitare le camme di contattore per ottenere l'ampiezza di scatto desiderata D. Serrare la vite di regolazione (2).

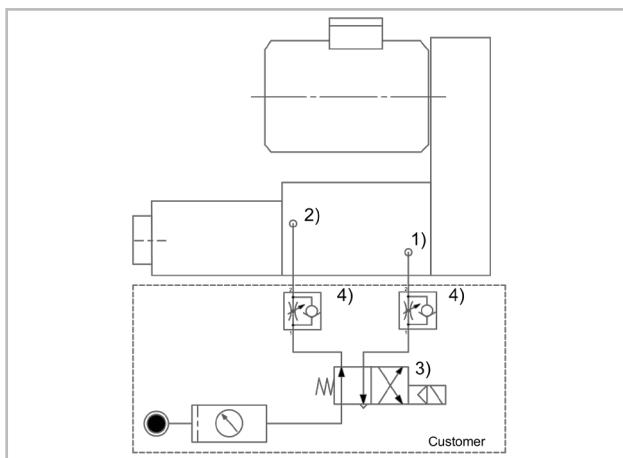
#### 2.2.2 DIAGRAMMA DI COMANDO

Il diagramma mostra la serie di segnali per un'operazione di foratura con un avanzamento a scatti.

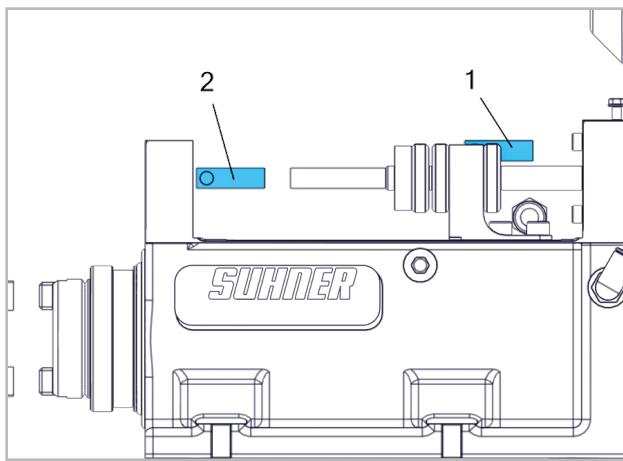


### 3. BEM 20 EAU

#### 3.1 ALLACCIAIMENTO DELLA MACCHINA



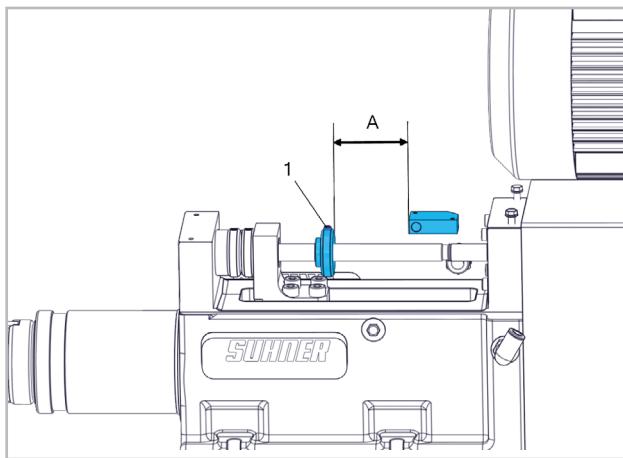
Corsa di ritorno «Indietro» (1), tubo flessibile in poliuretano ø6/ø 8 mm. Corsa di lavoro «Avanti» (2), tubo flessibile in poliuretano ø6/ø 8 mm. Valvola a 4/2 vie (3). Valvola di non ritorno a farfalla (4).



Interruttore alla «FINE» della corsa (posizione finale) (1). Interruttore all'«INIZIO» della corsa (posizione di partenza) (2).

#### 3.2 REGOLAZIONE DELLA CORSA

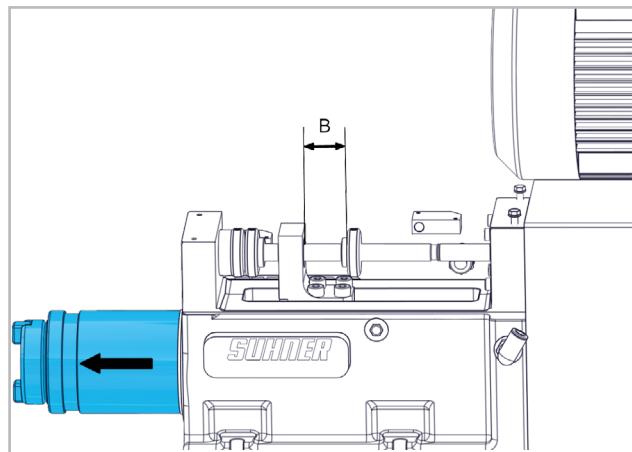
##### 3.2.1 CORSA DI LAVORO



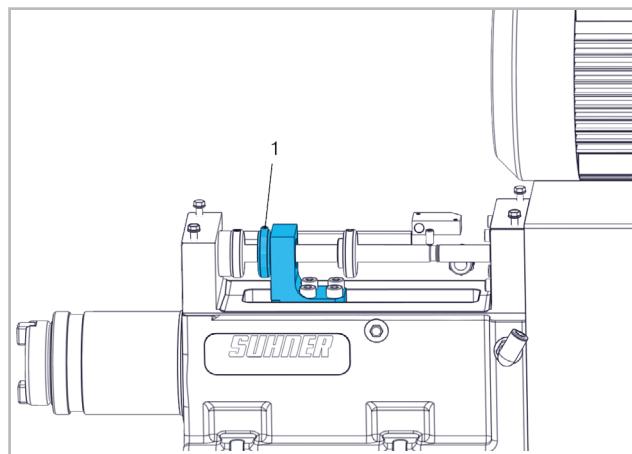
Allentare la vite di regolazione. Muovere in avanti o all'indietro il dado zigrinato fino a quando non viene rag-

giunta la posizione di lavoro desiderata A. Serrare la vite di regolazione (1).

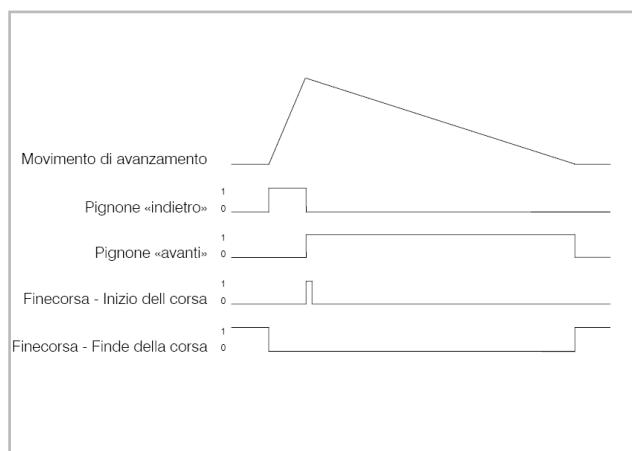
##### 3.2.2 CORSA VELOCE



Spostare la bussola nella posizione di partenza desiderata o nella posizione corsa veloce B.



Allentare la vite di regolazione. Avvitare il dado zigrinato fino al nottolino di trascinamento. Serrare la vite di regolazione (1).



Il diagramma mostra la serie di segnali per un'operazione di foratura con corsa veloce/di lavoro in senso contrario.

**Português**

**Español**

**Italiano**

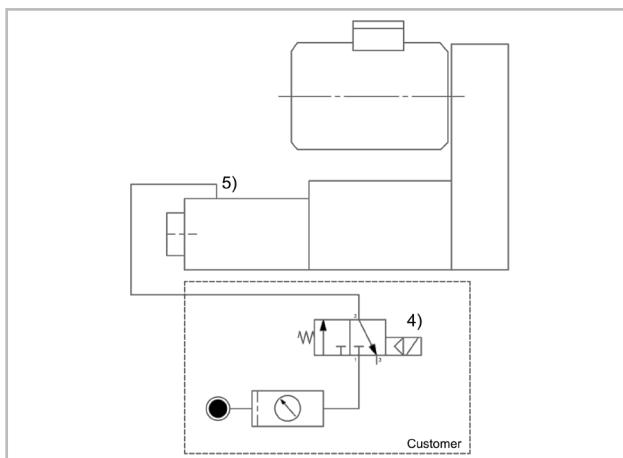
**English**

**Français**

**Deutsch**

## 1. BEM 20 ES

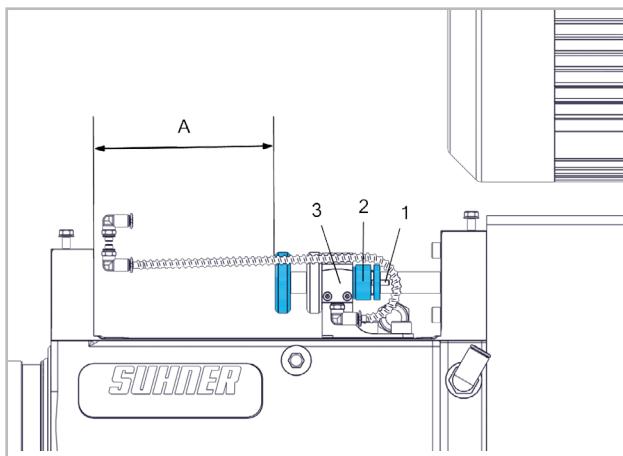
### 1.1 CONEXIÓN DE LA MÁQUINA



Válvula de 3/2 vías (4). Cilindro elevador de carrera corta (Cilindro de freno Retorno).

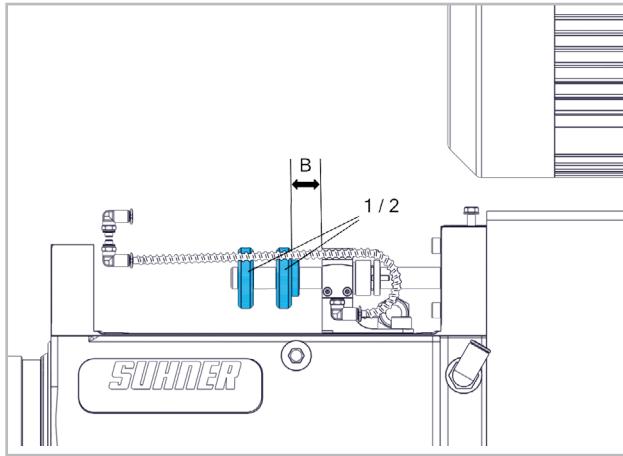
### 1.2 AJUSTE DE LA CARRERA

#### 1.2.1 CARRERA DE TRABAJO



Aflojar el tornillo de fijación (1) y enroscar hacia atrás la distancia (2). Desplazar el vástagos de pistón hacia delante hasta que lograr la carrera de trabajo A. Enroscar hacia delante hasta lograr la distancia (2) en el cilindro elevador de carrera corta. Apretar el tornillo de fijación (1).

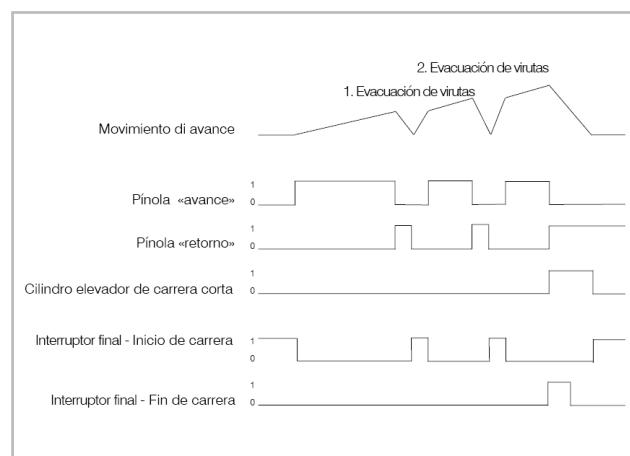
#### 1.2.2 CARRERA RÁPIDA



Aflojar el tornillo de fijación (1). Enroscar el tornillo moheteado hacia delante o hacia atrás para conseguir la carrera rápida B. Apretar el tornillo de fijación (2).

#### 1.2.3 DIAGRAMA DE CONTROL

El diagrama muestra la serie de señales para una operación de taladrado con 2 carreras de eliminación de virutas.

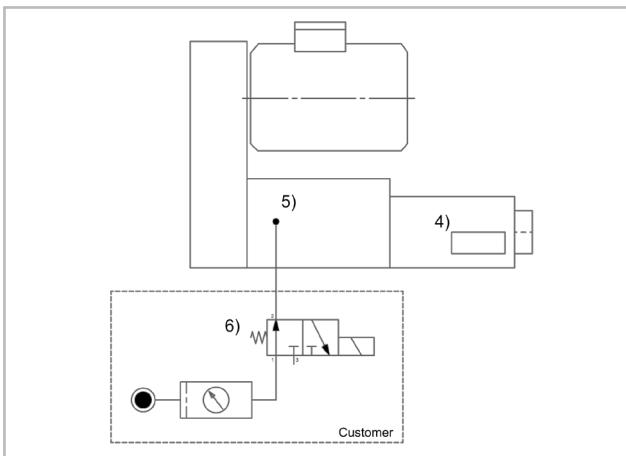


Para mover el vástagos de pistón a la posición inicial durante la carrera de retroceso, durante dicha carreras se debe sacar del todo el cilindro elevador de carrera corta. Una vez alcanzada la posición final, es puede volver a retraer del todo hasta su posición inicial.

## 2. BEM 20 SV

### 2.1 CONEXIÓN DE LA MÁQUINA

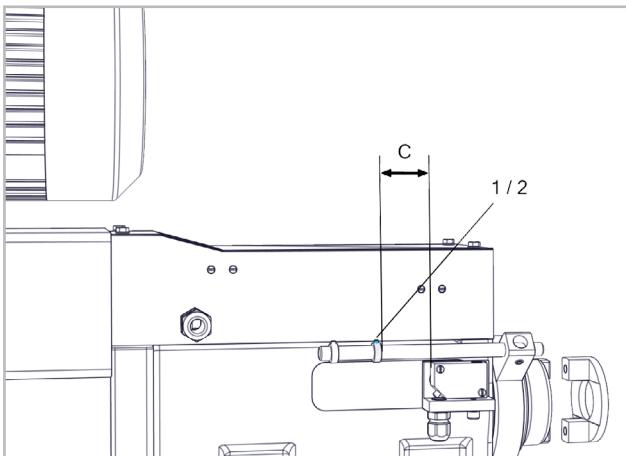
Conexión de aire comprimido para maximizar el caudal del cilindro de freno y de esta forma incrementar la velocidad de avance. Mientras prevalezca la presión, el freno está activo.



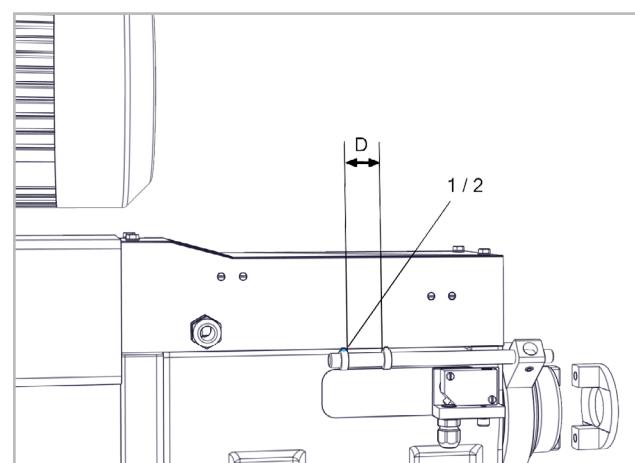
Sensor de aproximación (4). Suelta el freno (Tubo flexible de poliuretano Ø 8mm) (5). Válvula de 3/2 vías (6).

### 2.2 AJUSTE DE LA CARRERA

#### 2.2.1 SALTAR



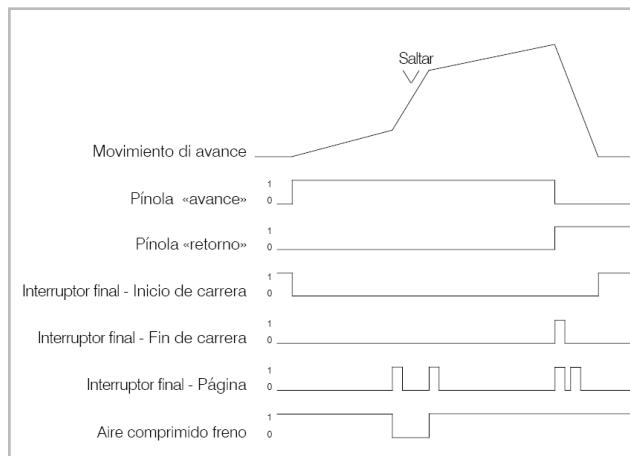
Aflojar el tornillo de fijación (1). Enroscar hacia delante o hacia atrás las levas de accionamiento para lograr la posición de inicio deseada C del salto. Apretar el tornillo de fijación (2).



Aflojar el tornillo de fijación (1). Enroscar hacia delante o hacia atrás las levas de accionamiento para lograr la distancia de salto D deseada. Apretar el tornillo de fijación (2).

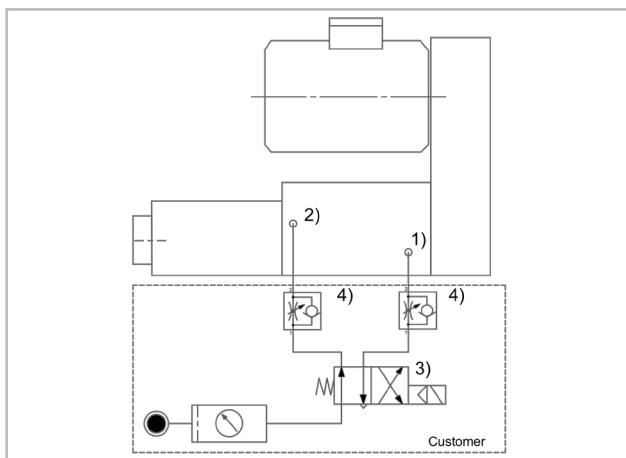
#### 2.2.2 DIAGRAMA DE CONTROL

El diagrama muestra la serie de señales para una operación de taladrado con un avance intermitente.

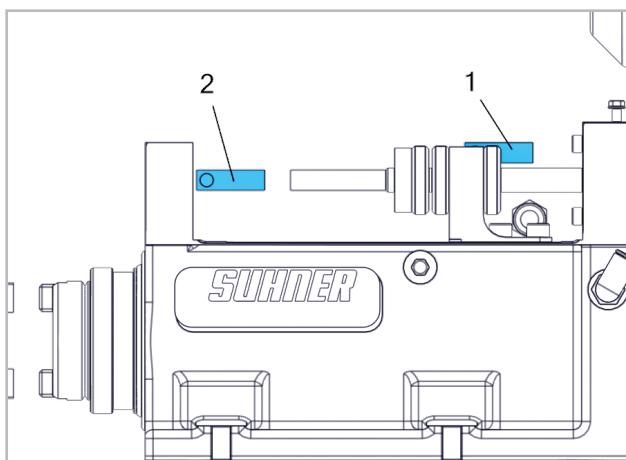


### 3. BEM 20 EAU

#### 3.1 CONEXIÓN DE LA MÁQUINA



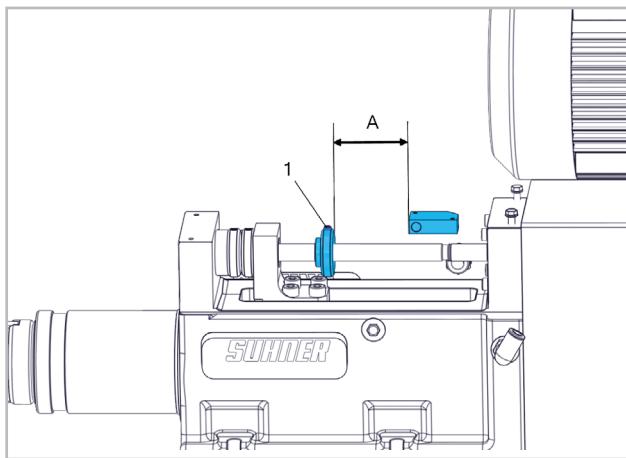
Carrera de retroceso «Retorno» (1), tubo flexible de poliuretano ø6/ø8 mm. Carrera de trabajo «Avance» (2), tubo flexible de poliuretano ø6/ø8 mm. Válvula de 4/2 vías (3). Válvula de estrangulación de retención (4).



Interruptor al «FINAL» de la carrera (posición final) (1). Interruptor al «INICIO» de la carrera (posición inicial) (2).

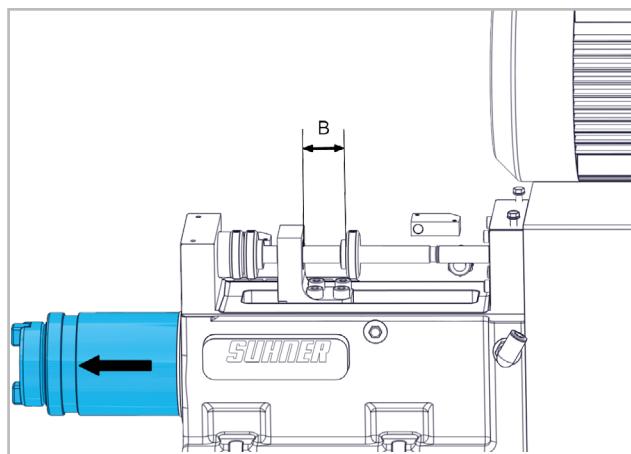
#### 3.2 AJUSTE DE LA CARRERA

##### 3.2.1 CARRERA DE TRABAJO

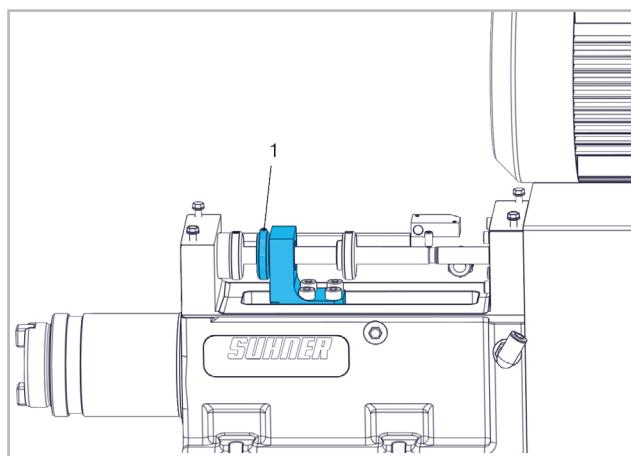


Aflojar el tornillo de fijación. Desplazar el vástago de pistón hacia delante o hacia atrás hasta que lograr la carrera de trabajo A. Apretar el tornillo de fijación (1).

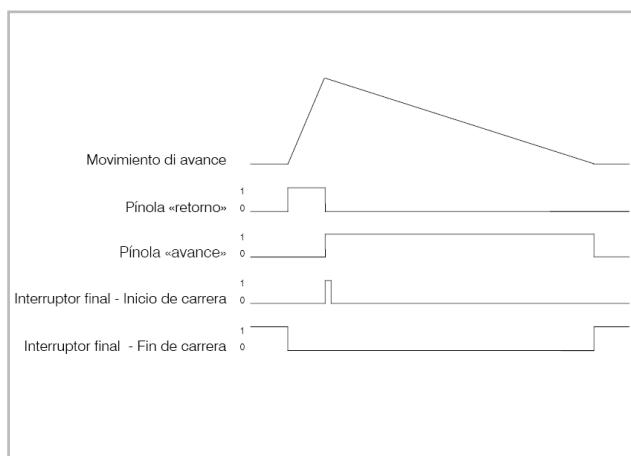
##### 3.2.2 CARRERA RÁPIDA



Mover la pínola en la posición de inicio deseada o posición de marcha rápida B.



Aflojar el tornillo de fijación. Enroscar la tuerca moheteada hasta la pieza de arrastre. Apretar el tornillo de fijación (1).



El diagrama muestra la serie de señales para una operación de taladrado con carrera rápida/de trabajo en orden inverso.

**Português**

**Español**

**Italiano**

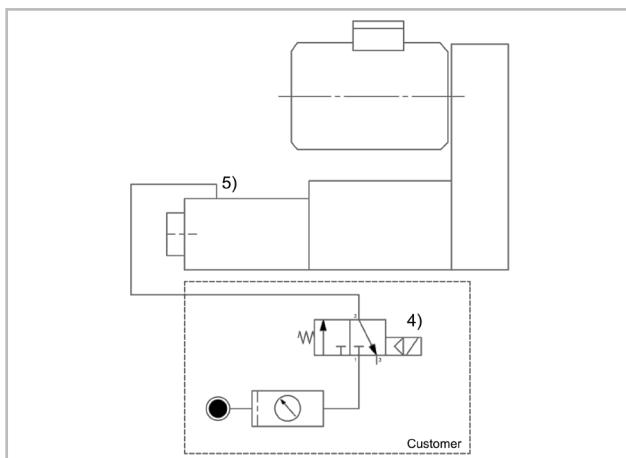
**English**

**Français**

**Deutsch**

## 1. BEM 20 ES

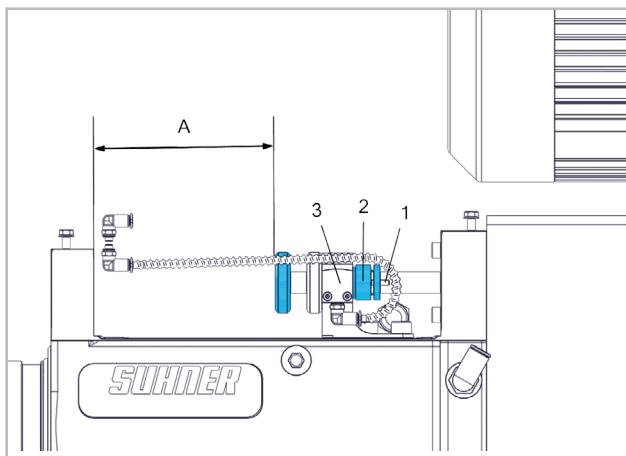
### 1.1 CONEXÃO DA MÁQUINA



Válvula de 3/2 vias (4). Cilindro de curso curto (Cilindro de freio para trás).

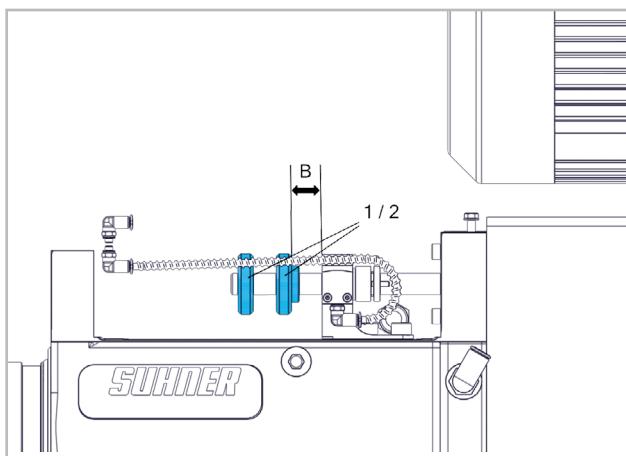
### 1.2 AJUSTE DE TRABALHO

#### 1.2.1 CURSO DE TRABALHO



Soltar o parafuso de regulação (1) e girar o distanciador (2) para trás. Puxar a biela para a frente até ser alcançado o curso de trabalho A. Girar o distanciador (2) para a frente até estar junto do cilindro de curso curto. Apertar o parafuso de regulação (1).

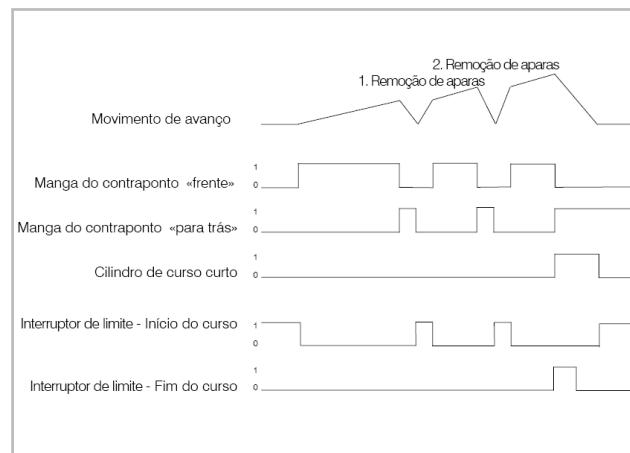
#### 1.2.2 CURSO RÁPIDO



Soltar o parafuso de regulação (1). Enroscar ou desenroscar o parafuso de cabeça estriada para obter o curso rápido B pretendido. Apertar o parafuso de regulação (2).

#### 1.2.3 DIAGRAMA DE CONTROLO

O diagrama mostra a sequência de sinais para uma operação de perfuração com 2 cursos de remoção de aparas.

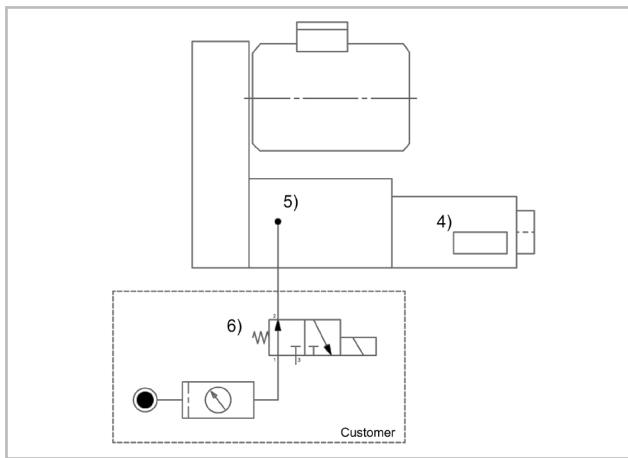


Para deslocar a biela para a posição inicial, durante o curso de retorno, é necessário fazer sair o cilindro de curso curto. Este só poderá ser recolhido depois de ter sido alcançada a posição final.

## 2. BEM 20 SV

### 2.1 CONEXÃO DA MÁQUINA

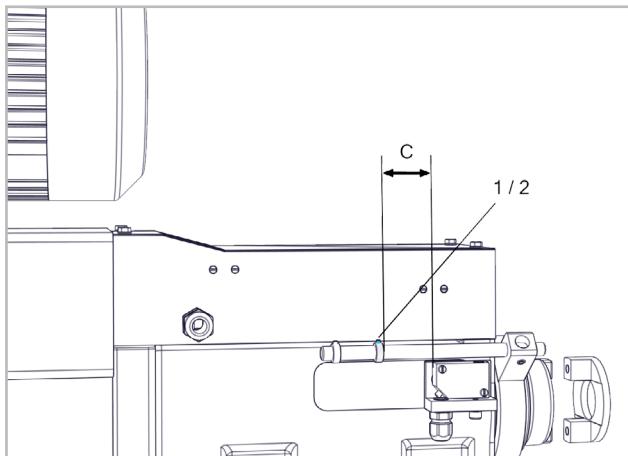
Ligação de ar comprimido para maximizar a passagem do cilindro de freio e aumentar, assim, a velocidade de avanço. Enquanto a pressão prevalecer, o freio está ativo.



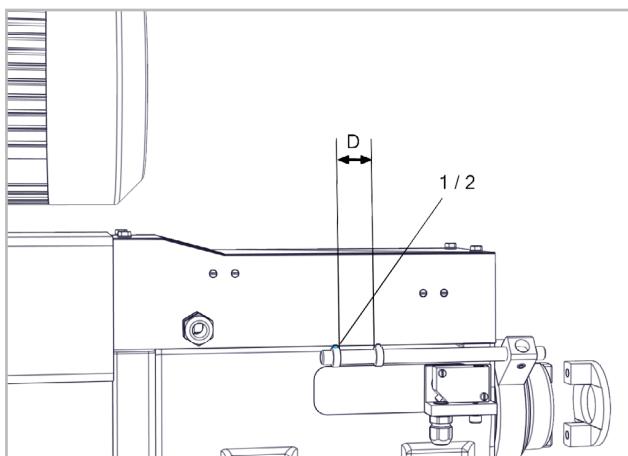
Sensor de proximidade (4). Salte o freio (Mangueira de poliuretano Ø 8mm) (5). Válvula de 3/2 vias (6).

### 2.2 AJUSTE DE TRABALHO

#### 2.2.1 SALTAR



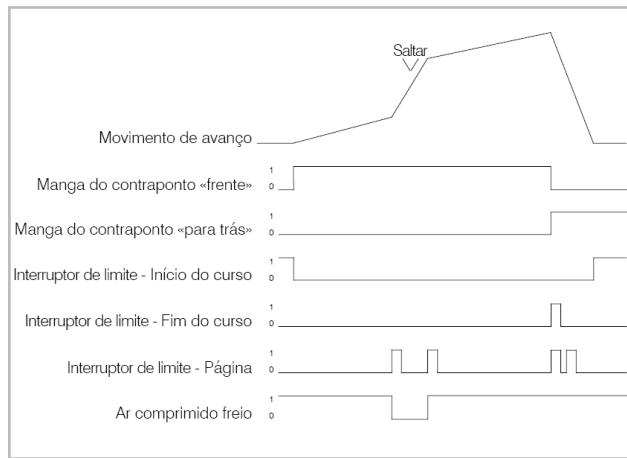
Soltar o parafuso de regulação (1). Fazer avançar ou recuar o came de comutação para obter a posição inicial C pretendida para o salto. Apertar o parafuso de regulação (2).



Soltar o parafuso de regulação (1). Fazer avançar ou recuar o came de comutação para obter a distância de salto D pretendida. Apertar o parafuso de regulação (2).

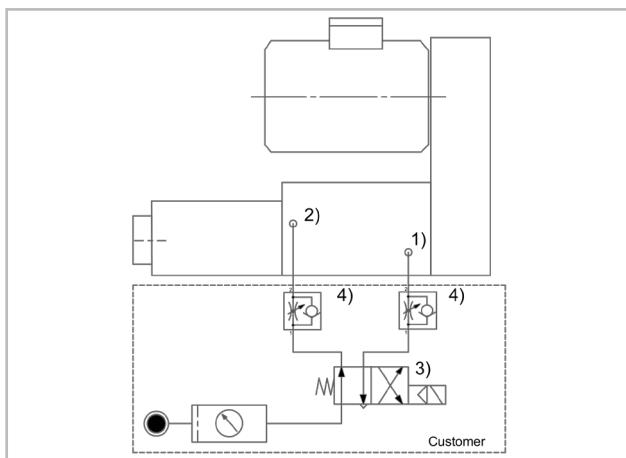
#### 2.2.2 DIAGRAMA DE controlo

O diagrama mostra a sequência de sinais para uma operação de perfuração com um curso de avanço de salto.

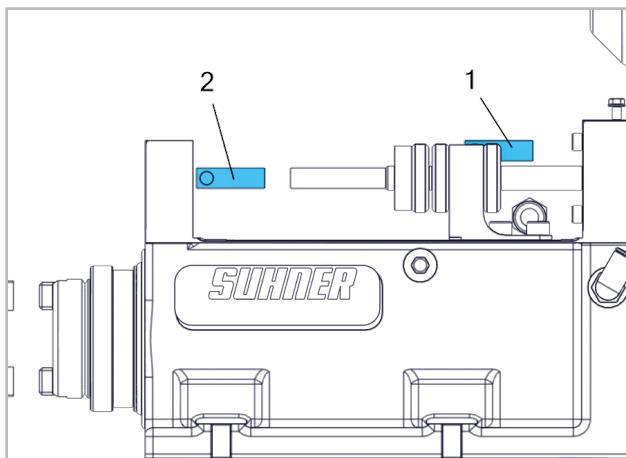


### 3. BEM 20 EAU

#### 3.1 CONEXÃO DA MÁQUINA



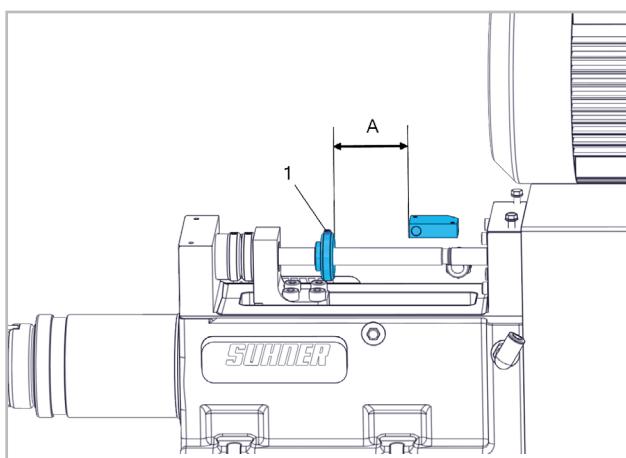
Curso de retorno «Para trás» (1), mangueira de poliuretano ø6/ø8 mm. Curso de trabalho «Frente» (2), mangueira de poliuretano ø6/ø8 mm. Válvula de 4/2 vias (3). Válvula reguladora de caudal (4).



Interruptor no «FIM» do curso (posição final) (1). Interruptor no «INÍCIO» do curso (posição inicial) (2).

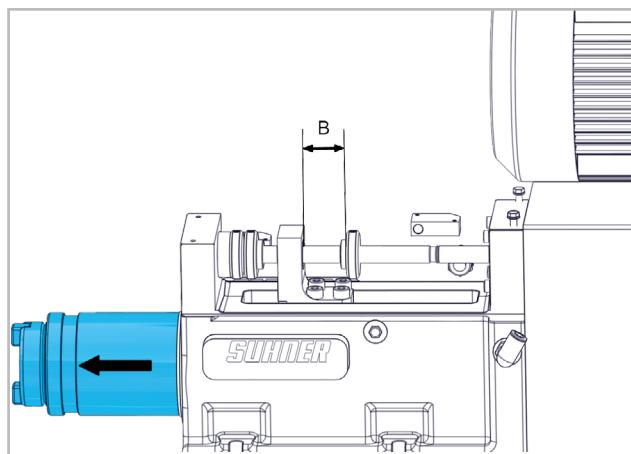
#### 3.2 AJUSTE DO CORSO

##### 3.2.1 CURSO DE TRABALHO

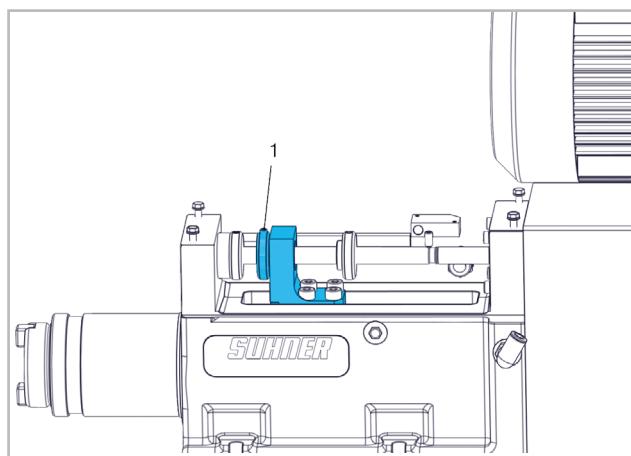


Soltar o parafuso de regulação. Enroscar ou desenroscar a porca serrilhada até ser alcançado o curso de trabalho A. Apertar o parafuso de regulação (1).

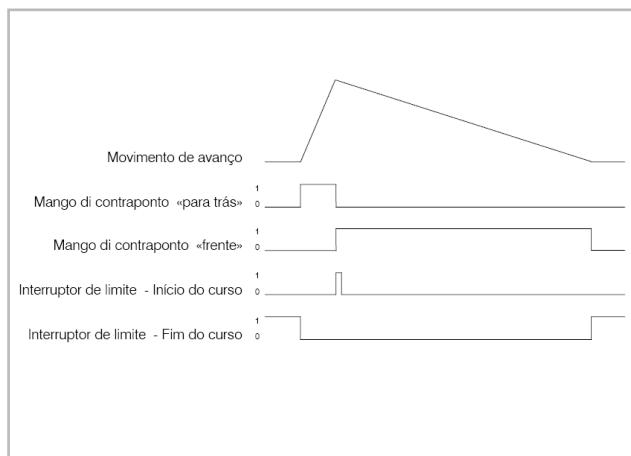
##### 3.2.2 CURSO RÁPIDO



Deslocar a manga do contraponto para a posição inicial pretendida ou para a posição de curso rápido B.



Soltar o parafuso de regulação. Rodar a porca serrilhada até estar junto do arrastador. Apertar o parafuso de regulação (1).



O diagrama mostra a sequência de sinais para uma operação de perfuração com rápido/de trabalho inverso.

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