

Waiting position

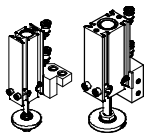


FESTO

Brief description

Waiting position
type BW_-HSP

– English



8103879
2018-12b
[8103881]

Translation of the original instructions

Documentation on the product



For all available product documentation
→ www.festo.com/pk

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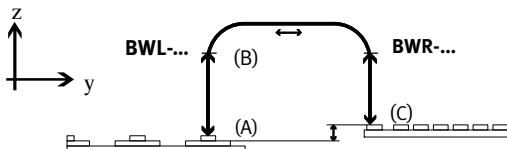
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English 3

1 Important user instructions

When the double-acting actuator cylinder type BWL-/BWR-HSP-... retracts, it pulls the vertical guide rail of the handling module type HSP-... out of the left-hand (A) or right-hand end position upwards into the waiting position (B).

When the actuator cylinder moves out, the HSP-... can swing out of the waiting position (B) back into the starting position (A) or the other end position (C). The actuator cylinder type BWL-/BWR-HSP-... has been designed for pulling the vertical guide rail of the handling module type HSP-... out of the work range.



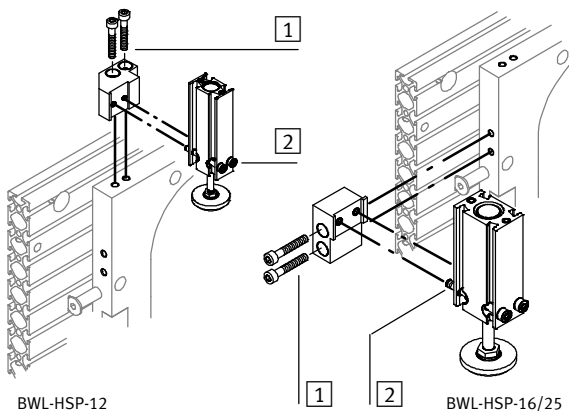
Conditions of use

- Observe the specified limits (e.g. pressures, forces, temperatures). Observe the ambient conditions at your location.
- Pressurize your system slowly. Uncontrolled movements will not then occur.
- Use the product in its original state without undertaking any modifications.

2 Fitting

- Use shut-off valves in order to make the system pressureless for installation and maintenance work.

For fastening to the HSP-...



Tightening torques

Type	1		2	
BWL-/BWR-HSP-12	M4	3 Nm	M3	1.2 Nm
BWL-/BWR-HSP-16	M5	6 Nm	M4	1.2 Nm
BWL-/BWR-HSP-25	M5	6 Nm	M5	3.0 Nm

1. Fit the support for the waiting position on the relevant link side of the HSP-...
 - type BWL-... left-hand side
 - type BWR-... right-hand side.
2. Fasten the support with two cheese-head screws 1
 - on the HSP-...-12 from above
 - on the HSP-...-16/25 at the side.

Replacing the cylinder

3. Push the cylinder upright, from above onto the support.
4. When using the protective cover of the HSP-...: position the pneumatic connections on the rear.
5. Fasten the cylinder with two cheese-head screws 2.



Please note

Make sure that the cylinder is fitted free of distortion.

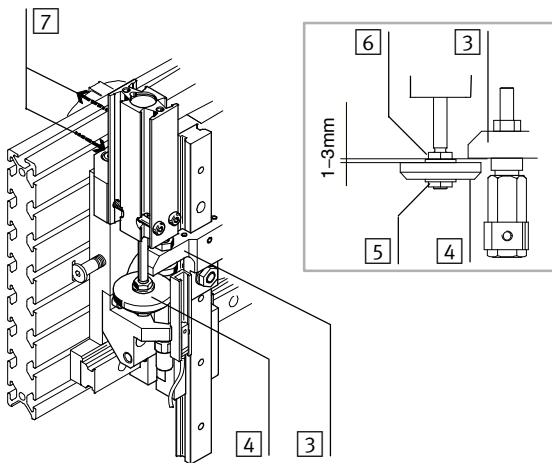
- Observe the specified tightening torques.
- Tighten the screws equally in alternate sequence.
- After fitting, check manually to make sure that the piston rod can be moved easily and smoothly.

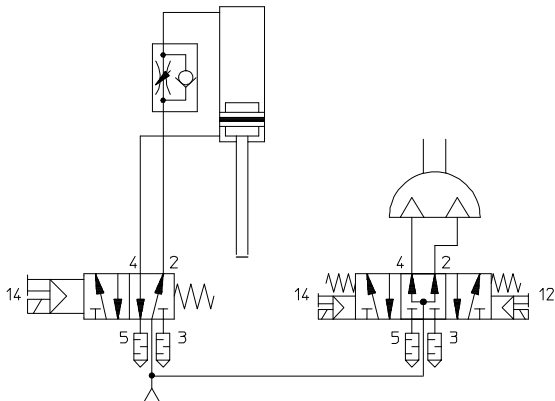
- Check in the end position the distance between cross-link **3** of the HSP-... and disc of the BWL-/BWR-HSP-... **4**.

With stop (distance < 1 mm):

1. Check the fastening of the BWL-/BWR-HSP-...
2. If necessary, loosen the hexagon nuts **5** and **6** for readjustment.
3. Set a distance of 1..3 mm.
4. Tighten the locking nut **5** (see table).

Type	Tightening torque 5	
BWL-/BWR-HSP-12	M4	1.0 Nm
BWL-/BWR-HSP-16	M6	4.0 Nm
BWL-/BWR-HSP-25	M8	4.0 Nm

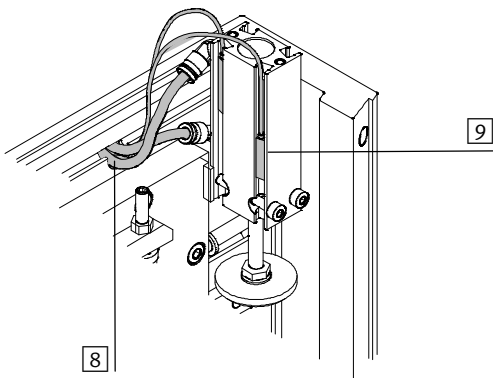




Fitting the pneumatic components

The cylinder is supplied fitted with built-in fixed restrictor (exhaust) for reducing the retraction speed and with quick connectors type QSML-... .

- Connect the pneumatic tubing to connection 7.
- Use e.g. the following components:
 - a 5/2-way valve for actuating the cylinder (basic position: cylinder extended)
 - a 5/3-way valve for actuating the drive of the HSP-... (basic position: drive pressure-neutral)
 - optional: additional restriction for reducing the retraction speed.
- Fasten the tubing outside the area of movement. Lay the tubing e.g. through the holes in the HSP-... to the back 8.



Fitting the electric components

For scanning the position of the cylinder use a proximity switch type SME/SMT-8-... .

1. Push the proximity switch into the sensor groove of the cylinder **9**.
2. Fasten the proximity switch in the end position.
3. Fasten the cables outside the area of movement.
 - Clamp the cables in the groove of the side plates and the sub-base of the HSP-... .
 - Secure the cables with the aid of the cover profile of the installation kit type MKRP-... .
 - Pass the cables back through the hole in the sub-base **8**.

3 Commissioning



Caution

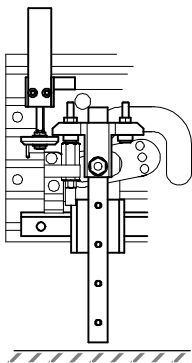
During operation high dynamic forces arise which can damage the mechanical components.

Make sure that the cylinder is extended when the mounting cycle is started or continued (see table “Mounting cycle”).

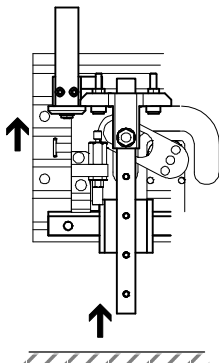
Make sure that movement to the waiting position is only undertaken from the end position reached against the pressure-neutral rotary drive.

- Pressurize the rotary drive via the 5/3-way valve in both chambers before the cylinder is retracted.
 - Reset the 5/3-way valve to the basic position as soon as the HSP-... reaches the end position again (starting position).
-
- Pressurize your system slowly.
 - Observe the commissioning instructions in the manual for the HSP-... .
 - Carry out a test run as described in the manual for the HSP-... .

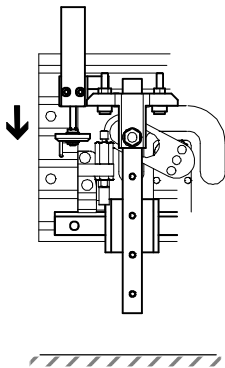
Mounting cycle with BWL-HSP-...



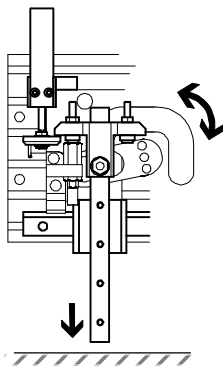
1. Basic position:
HSP... is in the left-hand end position. BWL-HSP... is extended. Drive is pressure-neutral.



2. Waiting position:
BWL-HSP... retracts and pulls the vertical guide rail out of the work range.



3. BWL-HSP... is extended.



4. Mounting cycle is continued.

4 Diagnosis

Fault	Possible cause	Remedy
Crosslink knocks against disc	No gap between crosslink and disc	Readjust gap (1 ... 3 mm)
Uneven running	<ul style="list-style-type: none">– Bearing cover on cylinder distorted or– Piston rod too dry	<ul style="list-style-type: none">– Loosen screws, then tighten again equally– Lubricate the piston rod

5 Technical specifications

BWL-/BWR-HSP...	12	16	25
Weight [g]	75	170	310
Stroke. ₃ (z-direction) [mm]	15	25	25
Drive medium	Filtered compressed air, lubricated or non-lubricated		
Filter fineness	40 µm		
Permitted operating pressure	min. 4 ... max. 10 bar		
Pneumatic connection			
– Plug connector (already fitted)	QSML-M3-3	QSML-M5-4	
– Exhaust restriction (built-in)	∅ 0.3 mm	∅ 0.6 mm	
Theoretical work force at 6 bar	40 N	104 N	158 N
Ambient temperature	0 ... + 60° C		
Materials			
– Support – Disc	AL wrought alloy, anodized Polyamide (PA66)		
Cylinder – End cover (bearing) – Cylinder barrel – Piston rod – Seals	Brass Aluminium Steel, stainless Polyurethane		

