Test instruction

Prior to testing read carefully the safety instructions.

Safety Instructions

WARNING

Testing the device on the test bench is to be made only by qualified personnel with a specific system knowledge.

Always start testing only after you have read and understood all information required for testing.

Test the device only on a calibrated test bench.

In case of doubt, use test values specified by the vehicle manufacturer.

While testing the device implicitly observe this test instruction.

CAUTION

Comply with internal as well as national accident prevention regulations.

Unlock screws, hoses and equipment parts only when the respective lines of the test bench are vented.

Test instruction for device 461 315 ... 0

004	019	034	046	064	085	180	454	486	498
005	020	035	047	065	086	251	459	489	499
008	021	036	048	072	088	253	474	490	500
009	022	037	049	075	089	254	475	491	502
012	023	040	050	077	150	255	479	492	
014	026	041	053	080	151	258	480	494	
016	027	042	055	081	154	259	482	495	
017	030	043	061	082	155	261	483	496	
018	032	044	063	083	161	264	484	497	

Symbols and signal terms

WARNING

Possible danger: Any non-compliance can result in severe personal injuries or death.

CAUTION

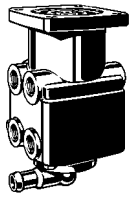
Possible danger: Any non-compliance can result in minor or medium severe personal injuries.

– Handling

• Enumeration

Important instructions, explanations, information, tips

Gauge indication



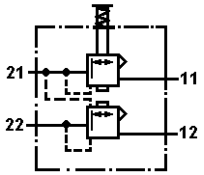


Fig. 1 + 2 Brake valve 461 315 ... 0, functional symbol

Necessary equipment/tools

- Test Bench 435 197 000 0
- Adequate equipment
  - for clamping the brake valve,
  - for impressing the stem with mm graduation.

Additional documents:
(see www.wabco-auto.com => INFORM)

- Test Values 2/2:
  to be found by entry of the product number in INFORM
- Test Bench - Operating Instructions
  435 197 000 0
- General Repair and Test Hints:
  820 001 074 3 (de)
  820 001 075 3 (en)
  820 001 076 3 (es)
  820 001 077 3 (fr)
  820 001 078 3 (it)

Check sequence

Perform test procedure as per specified sequence

Find test values P1 to P8 and H1 to H4 in document "test values 2/2".

Reservoir pressure is 10 bar max.

CAUTION

Before starting any test ensure that cut-off cocks are in their correct normal position (see table 1).

Cock	A	B	C	D	F	L	V	2	3	4	6	7	11	12	21	22
on	x												x		x	
off		x	x	x	x	x	x	x	x	x	x	x		x		x

Table 1: Normal position of cut-off cocks on the test bench

1. External evaluation

– Inspect device for external visible damage.

– Check all ports of the device for free passage by visual inspection.

2. Preparations

– Fix device in clamping equipment.

– Connect device to test bench ports (see fig. 3).

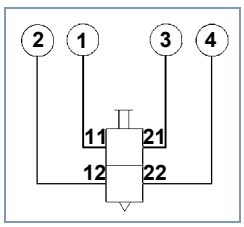


Fig. 3 Test Bench Ports

CAUTION

Make sure that plug-in connections on test bench and device are safely plugged.

3. Check tightness

WARNING

Never install an untightened brake valve on the vehicle.

3.1 Exhaust

On a non-actuated device no air must exceed from the exhaust.

– Vent ports 11 and 12 with P1.

– Operate device several times.

– Wait until excess pressure is decreased.

- Check exhaust of the device for tightness.

  No leakages admissible.

3.2 Complete device

– Operate stem with H1 (stop within the device).

– Cover complete device with soap and check tightness.

  No leakages admissible.
  With soap bubbling the device is not tight.

– Re-adjust stem to 0 mm.

4. Obtain maximum pressure

– Detect zero point (first pressure increase) by slowly impressing the stem (see fig. 4).

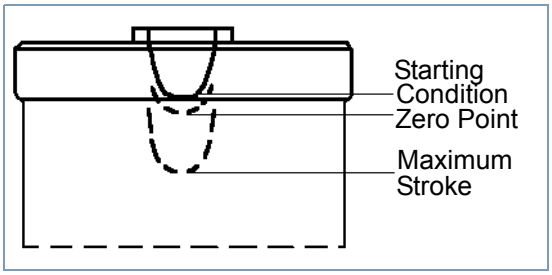


Fig. 4 Zero Point

– Operate stem with H1 (stop within the device).

i Pressure must increase immediately.

↖ Gauges 3 and 4 must indicate P2.

– Re-adjust stem to 0 mm.

↖ Gauges 3 and 4 must indicate 0 bar.

5. Graduability

i In all pressure scopes incremental steps of max. 0.2 bar must be possible.

6. Check pressure increase

– Operate stem several times.

↖ Gauges 3 and 4 must indicate immediate pressure increase resp. decrease.

i In accordance with the type of device, one circuit must have predominance.

6.1 Check sudden pressure increase

i It should be checked, if circle 1 or circle 2 has the first pressure increase.

– Operate stem with H2.

↖ Gauge 3 must indicate P3.
Gauge 4 must indicate P4.

6.2 Distance until venting of P5/P6

– Operate stem with H3.

i Pressure must increase immediately.

↖ Gauge 3 must indicate P5.
Gauge 4 must indicate P6.

6.3 Distance until venting of P7/P8

– Operate stem with H4.

i Pressure must increase immediately.

↖ Gauge 3 must indicate P7.
Gauge 4 must indicate P8.

6.4 Distance until venting of P2

– Operate stem with H1 (stop within the device).

i Pressure must increase immediately.

↖ Gauges 3 and 4 must indicate P2.

– Re-adjust stem to 0 mm.

↖ Gauges 3 and 4 must indicate 0 bar.

7. Failure of circuit 1

– Vent port 11.

↖ Gauge 1 must indicate 0 bar.

– Operate stem with H1 (stop within the device).

↖ Gauge 3 must indicate 0 bar.
Gauge 4 must indicate P2.

– Re-adjust stem to 0 mm.

↖ Gauges 3 and 4 must indicate 0 bar.

8. Completion of test

– Vent port 12 to 0 bar.

↖ Gauges 1 and 2 must indicate 0 bar.

⚠ ***CAUTION***

Disconnect pipe connections only after having exhausted the device to 0 bar before.

– Remove device from fixture.

– Cleaning device.