

BOSCH-INJ.-PUMP TEST SPECIFICATIONS

Note inst. in remarks column

Test sheet : CUM 3,9 N31  
Edition : 15.07.91  
replaces : 18.01.90  
Calibrating oil : ISO-4113  
  
Injection pump : VE4/12F1050R389  
Type number : 0 460 424 065  
Customer Part-No. :

Customer-specific information  
Customer : CDC

Engine : 4 BT- 390 AUTOM.

Power KW: 81  
Speed 1/min: 2100

TEST BENCH REQUIREMENTS

Calibrating-oil  
return temp. °C  
with thermometer : 40.00...48.00  
Electronically : 42.00...50.00

Inlet press., bar : 0.30...0.40

Calibrating nozzle-holder  
assembly : 1 688 901 027

Opening  
Pressure bar: 250.00...253.00

Perforated-plate  
diameter mm: 0.5

Test inj. tubing : 1 680 750 017

Outside diameter : 6.00  
x Wall thickness : 2.00  
x Length mm: 840

Start of delivery  
Prestroke mm: 0,3  
(from BDC):  $\pm 0,02(0,04)$

Start of delivery block  
Piston stroke mm: 1.55  
mm:  $\pm 0,02(0,06)$

Outlet : A

Injection-pump setting values  
Test specifications in parentheses

H06

Timing-device travel

Speed 1/min: 750  
Charge press. hPa: 1000  
Setting value mm: 3.40...3.80  
Shutoff  
electromagnet Volt: 12

Supply-pump pressure

Speed 1/min: 750  
Charge press hPa: 1000  
Setting value bar: 5,0...5,6  
Shutoff  
electromagnet Volt: 12

Full-load del. with charge press.:

Speed 1/min: 750  
Charge press. hPa: 1000  
Del. quantity cm<sup>3</sup>/  
1000S.: 89.50...90.50  
Shutoff  
electromagnet Volt: 12  
Dispersion cm<sup>3</sup>/  
1000S.: (4.5)

Full-load del. w/out charge press.:

Speed 1/min: 500  
Del. quantity cm<sup>3</sup>/  
1000S.: 63.50...64.50  
Shutoff  
electromagnet Volt: 12

Low-idle speed regulation

Speed 1/min: 375  
Del. quantity cm<sup>3</sup>/  
1000S.: 8.00...14.00  
Shutoff  
electromagnet Volt: 12  
Del. quantity cm<sup>3</sup>/  
1000S.: (7.0)

Full-load speed regulation

Speed 1/min: 1100  
Charge press hPa: 1000  
Del. quantity cm<sup>3</sup>/  
1000S.: 59.00...65.00  
Shutoff  
electromagnet Volt: 12

Start:

Speed 1/min: 100  
Del. quantity cm<sup>3</sup>/  
mind 1000S.: 60.00...140.00

Shutoff  
electromagnet Volt: 12

Inspection-pump test specifications  
Test specifications in parentheses

Timing-device characteristic:

2nd speed 1/min: 1050  
Charge press hPa: 1000  
TD travel mm: 4.70...5.50  
mm: (4.40...5.80)

Shutoff  
electromagnet Volt: 12  
3rd speed 1/min: 750  
Charge press hPa: 1000  
TD travel mm: 3.40...3.80  
mm: (2.90...4.30)

Shutoff  
electromagnet Volt: 12  
4th speed 1/min: 500  
Charge press hPa: 1000  
TD travel mm: 1.70...2.50  
mm: (1.40...2.80)

Shutoff  
electromagnet Volt: 12

Supply-pump pressure characteristic:

1st speed 1/min: 500  
Charge press. hPa: 1000  
Supply-pump  
pressure bar: 3.90...4.50

Shutoff  
electromagnet Volt: 12  
3rd speed 1/min: 750  
Charge press. hPa: 1000  
Supply-pump  
pressure bar: 5.00...5.60

Shutoff  
electromagnet Volt: 12  
4th speed 1/min: 1050  
Charge press. hPa: 1000  
Supply-pump  
pressure bar: 6.30...6.90

Shutoff  
electromagnet Volt: 12

Overflow quantity at overflow valve:

1st speed 1/min: 500  
Charge press. hPa: -  
Shutoff  
electromagnet Volt: 12  
Overflow quantity cm<sup>3</sup>/10s: 41.70...83.40  
(26.70...98.40)  
2nd speed 1/min: 1050  
Charge press. hPa: 1000  
Shutoff  
electromagnet Volt: 12

Overflow : 55.60...139.00  
quantity cm<sup>3</sup>/10s: (40.60...154.00)

Delivery-quant. and breakaway char.:

1st speed 1/min: 700\*  
Charge-air pressure-setting  
point hPa: 350  
Shutoff  
electromagnet Volt: 12  
Del. quantity cm<sup>3</sup>: 79.50...80.50  
1000s.: (76.00...84.00)

2nd speed 1/min: 1180  
Charge press. hPa: 1000  
Shutoff  
electromagnet Volt: 12  
Del. quantity cm<sup>3</sup>: 0.00...3.00  
1000s.: (0.00...3.00)

5th speed 1/min: 1100  
Charge press. hPa: 1000  
Shutoff  
electromagnet Volt: 12  
Del. quantity cm<sup>3</sup>: 59.00...65.00  
1000s.: (56.00...68.00)

6th speed 1/min: 1120  
Charge press. hPa: 1000  
Shutoff  
electromagnet Volt: 12  
Del. quantity cm<sup>3</sup>: 15.00...55.00  
1000s.: (15.00...55.00)

9th speed 1/min: 1050  
Charge press. hPa: 1000  
Shutoff  
electromagnet Volt: 12  
Del. quantity cm<sup>3</sup>: 76.50...79.50  
1000s.: (75.00...81.00)

12th speed 1/min: 750  
Charge press. hPa: 1000  
Shutoff  
electromagnet Volt: 12  
Del. quantity cm<sup>3</sup>: 89.50...90.50  
1000s.: (87.00...93.00)

18th speed 1/min: 500  
Charge press. hPa: -  
Shutoff  
electromagnet Volt: 12  
Del. quantity cm<sup>3</sup>: 63.50...64.50  
1000s.: (60.00...68.00)

Mech. shutoff:  
Mech. Abstellung:

1st speed 1/min: 1050  
Charge press. hPa: 1000  
Del. quantity cm<sup>3</sup>: 0.00...3.00  
1000s.: (0.00...3.00)  
Shutoff  
electromagnet volt: 12

Electr. shutoff:

1st speed 1/min: 375  
Del. quantity cm<sup>3</sup>/: 0.00...3.00  
1000S.: (0.00...3.00)

Shutoff  
electromagnet volt: -

Idle delivery:

1st speed 1/min: 375  
Shutoff  
electromagnet Volt: 12  
Del. quantity cm<sup>3</sup>/: 8.00...14.00  
1000S.: (6.00...16.00)  
Dispersion cm<sup>3</sup>/: 5.5  
1000S.: (7.0)

2nd speed 1/min: 450  
Shutoff  
electromagnet Volt: 12  
Del. quantity cm<sup>3</sup>/: 0.00...4.00  
1000S.: (0.00...4.00)

Automatic starting fuel delivery:

1st speed 1/min: 130  
Shutoff  
electromagnet Volt: 12  
Del. quantity cm<sup>3</sup>/: 60.00...140.00  
1000S.: (60.00...140.00)

2nd speed 1/min: 230  
Shutoff  
electromagnet Volt: 12  
Del. quantity cm<sup>3</sup>/: 20.00...60.00  
1000S.: (20.00...60.00)

4th speed 1/min: 100  
Shutoff  
electromagnet Volt: 12  
Del. quantity cm<sup>3</sup>/: 60.00...140.00  
1000S.: (60.00...140.00)

Shutoff electromagnet:

Cut-in  
min voltage : 10.0  
Rated voltage : 12.0

Mounting and assembly dimensions:

Designation

K mm: -  
KF mm: 5,0...5,4  
MS mm: 1,0...1,4  
SVS max. mm: 2,2

Remarks:

: C.D.C. # 391 7516  
:

Operate control lever after each manifold-pressure compensator pressure change.

\* Correction at adjusting nut (46)