

90MPa

2
6

1

2

20000fps

Fig.1 The experimental setup

Table.1 Experimental Conditions

Injection Conditions	
Fuel	Gasoline
Injection pressure[MPa]	5,10
Ambient pressure[MPa]	0.1, 1
Energize duration[ms]	2.0

Proprietary Conditions	
Energize duration[ms]	2000
Frame rate[fps]	20,000
Resolution[pixel]	640 X 400

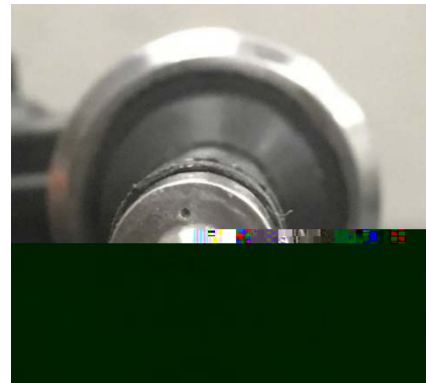


Fig.2 The nozzle tip

3

Fig.3 Row images

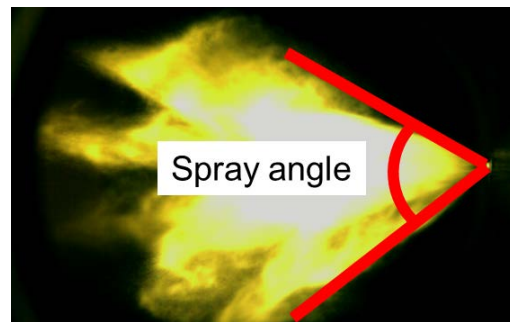


Fig.4 The definition of Spray tip penetration and Spray angle

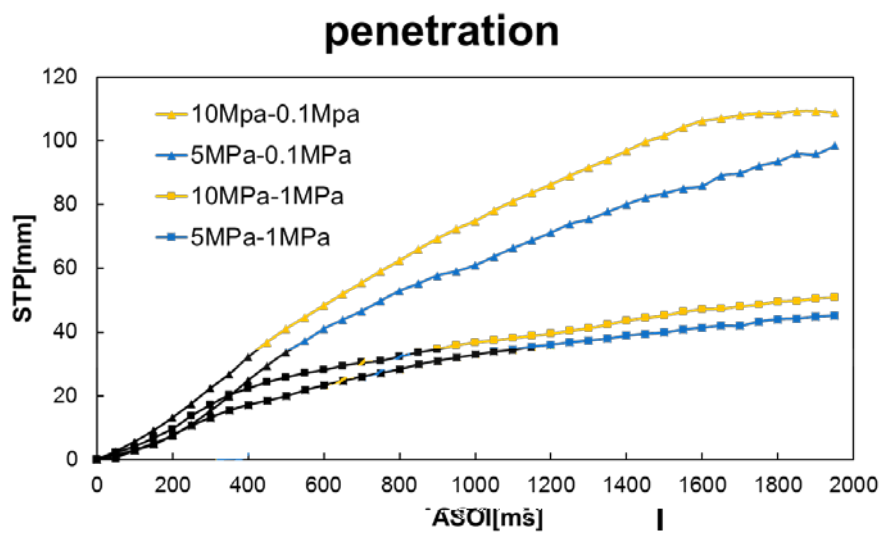


Fig.5 Spray tip penetration

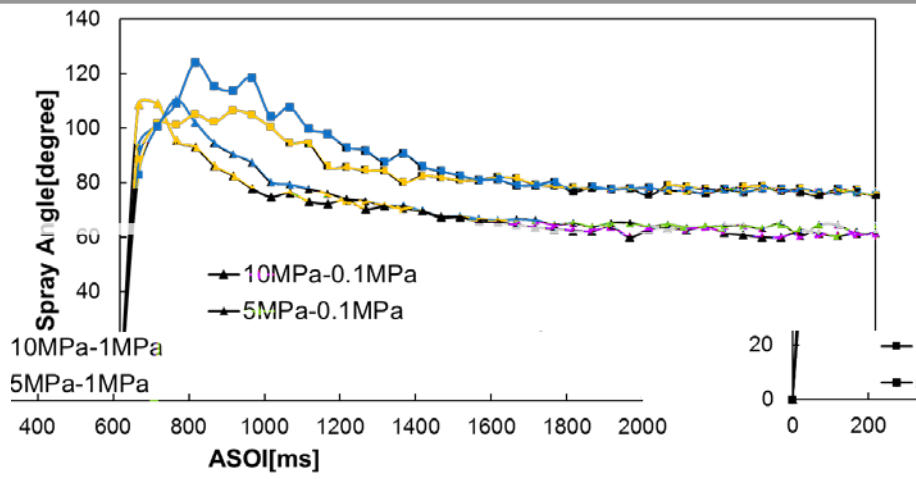


Fig.6 The spray angle

4

5

5

6