

## Test Specifications for Injection Pump and Governor

**Injection Pump**  
PES 4 A 50 B 410 RS 60

**with Governor**  
EP/M 60 A 31 d

**DAI Sheet**  
**1.7 b**

x dated: Apr. 13th 1962

### A. Adjustment Data of the Injection Pump

Feed Begin at a Pre-stroke of 1.7+0.1 mm (from BDC)

1	2	3	4	5	6
Speed r. p. m.	Control Rod Travel mm	Feed Quantity cm <sup>3</sup> /100 strokes	Differential cm <sup>3</sup> /100 strokes	Feed Quantity Drop (between 1000 and 200 r. p. m.) cm <sup>3</sup> /100 strokes	Pre-tension of Spring (Adaptation Valve) mm
1000	9	x 0.9-1.5	0.3		
	12	x 2.3-2.8			
	18	x 4.6-5.3			
200	9	x 0.7-1.2			

Adjust delivery of equal quantities within outlined  limits

### B. Adjustment Data of the Governor

1	2	3	4	5	6	7	8	9	10	11
Travel of Adaptation mm	Leak-Proof Test Vacuum Drop mm Water Col.	Time Min. sec.	Point of Adjustment Contr. Rod Travel Limit Vacuum mm Water Col.	Control Rod Travel mm	Control with Governor Design	Rod Travel Test Vacuum mm Water Col.	Control Rod Travel mm	Adaptation Vacuum mm Water Col.	Control Rod Travel mm	
1.0±0.1	500-480	10	300	11.5	- -	175 410 450 700 830	11.5 11.5 9 -11.5 0.6- 2.4 0	50 75 100 150	12.5-12.6 12.2-12.5 11.9-12.2 11.5-11.6	

For Testing Control Rod Travel (Column 4-11) n = 500 r. p. m.

### C. Adjustment of Injection Pump with Mounted Governor

0	1	2	3	4	5	6	7	8	9
Injection Pump	Adjustment of Full-Load Stop Screw			Testing of Feed Quantity Characteristics			Adjustment of Idling Stop		
	r. p. m.	Vacuum mm Water Col.	cm <sup>3</sup> /1000 strokes	r. p. m.	Vacuum mm Water Col.	cm <sup>3</sup> /1000 strokes	r. p. m.	Vacuum mm Water Col.	Control Rod Travel from Full-Load to Idling mm
RS 60	1000 1000	300 180	x 24.5-25.5 x 24.5-25.5	500 x 750	50 x 125	26.5-29.5 x 24.5-27.5			

The values in col. 3 and 6 are obtained by dividing the total quantity through the number of pump elements