

# Test Specifications for Injection Pump and Governor

**Injection Pump**  
PES 4 A 50 B 410 RS 17

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

**DAI Sheet**  
**1.7 a**

x dated: Apr. 13th 1962

## A. Adjustment Data of the Injection Pump

Feed Begin at a Pre-stroke of  $1.7 \pm 0.1$  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	Feed Quantity 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
1 000	9	0.9–1.5			
	12	2.3–2.8	0.3		
	18	4.6–5.3			
200	9	x 0.7–1.5			

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 Adap-tation  mm	Leak-Proof Test		Point of Adjustment Control Rod Travel Limit		Control Rod Travel Test			Adaptation		
	Vacuum Drop	Time Min.	Vacuum	Control Rod Travel	with Governor	Vacuum	Control Rod Travel	Vacuum	Control Rod Travel	
	mm Water Col.	sec.	mm Water Col.	mm	Design	mm Water Col.	mm	mm Water Col.	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			
	r. p. m.	Vacuum mm Water Col.	cm <sup>3</sup> /100 strokes	r. p. m.	Vacuum mm Water Col.	cm <sup>3</sup> /100 strokes	r. p. m.	Vacuum mm Water Col.	Control Rod Travel from Full-Load to Idling mm
RS 17	1000 1000	300 180	27.5–28.5 27.5–28.5	500 x 750	50 x 125	29.5–32.5 x 27.5–30.5			

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