

Test Specifications for Injection Pump and Governor

Injection Pump
PES 4 A 50 B 410 RS 144

with Governor
EP/MZ 60 A 72 d

DAI Sheet
1,8 a

dated: March 1st 1955

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	Control Rod Travel	Feed Quantity	Feed Quantity Differential	Feed Quantity Drop	Pre-tension of Spring
r.p.m.	mm	cm ³ /100 strokes	cm ³ /100 strokes	(between 1000 and 200 r.p.m.) cm ³ /100 strokes	(Adaptation Valve) mm
1000	9	0.9–1.5	0.3	0.8	
	12	2.3–2.8			
	18	4.6–5.3			
200	9	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	Leak-proof Test		Point of Adjustment Control Rod Travel Limit		Control Rod Travel Test				Adaptation	
mm	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	12.5	– –	470 * 490 500 600 1800	12.5 12.5 10 –12.5 6 – 8.3 5.8– 6.8	50 125 200 300	13.5–13.6 12.9–13.1 12.5 12.5	

* Exactly adjust these values by placing washers WMS 22 S 18 ... 19 X below the control rod spring

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		
		Vacuum			Vacuum			Vacuum	Control Rod Travel from Full-Load to Idling
	r.p.m.	mm Water Col.	cm ³ /1000 strokes	r.p.m.	mm Water Col.	cm ³ /1000 strokes	r.p.m.	mm Water Col.	mm
R 144	1000	300	29–30	500 750	50 125	31–34 29–32	0	0	7.8–8.3

After full-load adjustment, repeat check according to section B, columns 8, 9 and 2, 3!

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