

# Test Specifications for Injection Pump and Governor

<b>Injection Pump</b> PES 4 A 50 B 410 RS 144z	<b>with Governor</b> EP/MZ 60 A 93 d	<b>DAI Sheet</b> <b>1,80</b> dated: Nov. 28th 1956 and/or Aug. 1st 1959
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## 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 <small>r.p.m.</small>	Control Rod Travel <small>mm</small>	Feed Quantity <small>cm<sup>3</sup>/100 strokes</small>	Differential <small>cm<sup>3</sup>/100 strokes</small>	Feed Quantity Drop <small>(between 1000 and 200 r.p.m.) cm<sup>3</sup>/100 strokes</small>	Pre-tension of Spring <small>(Adaptation Valve) mm</small>
1000	9  12  18	0.9-1.5  2.3-2.8  4.6-5.3	0.2		
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 <small>mm</small>	Leak-proof Test		Point of Adjustment Control Rod Travel Limit		Control Rod Travel Test			Adaptation		
	Vacuum Drop <small>mm Water Col.</small>	Time Min. <small>sec.</small>	Vacuum <small>mm Water Col.</small>	Control Rod Travel <small>mm</small>	with Governor Design	Vacuum <small>mm Water Col.</small>	Control Rod Travel <small>mm</small>	Vacuum <small>mm Water Col.</small>	Control Rod Travel <small>mm</small>	
0.6±0.1	500-480	10	430	11.9	— —	* 470 500 560 2000	11.9 9.9-11.6 7.5- 9.4 4.6- 5.2	200 250 320	12.4-12.6 12.3-12.6 12 -12.3	

\* Exactly adjust these values by placing washers WMS 22 S 18 . . . 19 × 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		
	<small>r.p.m.</small>	Vacuum <small>mm Water Col.</small>	<small>cm<sup>3</sup>/1000 strokes</small>	<small>r.p.m.</small>	Vacuum <small>mm Water Col.</small>	<small>cm<sup>3</sup>/1000 strokes</small>	<small>r.p.m.</small>	Vacuum <small>mm Water Col.</small>	Control Rod Travel from Full-Load to Idling <small>mm</small>
RS 144 z	1600	430	24.5-25.5	1200 900 250	270 175	24.5-26.5 24.5-26.5 7-9*	0	0	4.9-5.2

\*Increase water column up to the max. feed quantity differential being: 1.5

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