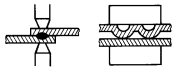


# DALEX

## SCHWEISSTECHNIK



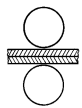
A  
SPOT  
Welding machine



B  
SPOT/PROJECTION  
Welding machine



C  
PROJECTION  
Welding machine



N  
SEAM  
Welding machine  
With cross or longitudinal arms

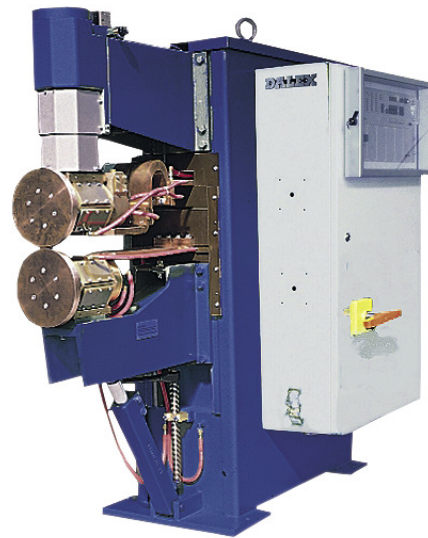


fig. PMS 14-4 in model N  
as seam welding machine

### TECHNICAL DATA

Power rating at 50 % d.c: 100, 125, 160 or 200 kVA

Machine throat depth: 250, 350, 550, 750 or 1050 mm

Electrode force: 200 – 1200 daN, 80 – 1200 daN or 300 – 1800 daN

Electrode stroke: max. 100 mm

### TECHNICAL DETAILS

- non-distortion machine frame with ribbed shell construction
- generously-dimensioned switching cabinet for taking welding and machine controls
- absolute separation between machine and switching unit
- infinitely adjustable height of lower arm
- electrode force cylinder with precision guide and external rotational protection
- very good performance factor via the close coupling of the secondary circuits
- electrode force can be infinitely regulated
- speed of working and return strokes of the cylinders can be regulated separately via throttle
- 4 separate cooling water circuits for cooling the current-carrying parts and the power stage
- welding transformer cast in resin for water-cooling and thermal protective switch is fully enclosed on the primary side
- primary and secondary coils vacuum cast
- compressed air service unit as standard, consisting of filter, regulator and manometer

### EXTRA EQUIPMENT

- double stroke cylinder (DH), 75 + 25 mm stroke
- double stroke cylinder + travel for working stroke (DHZ), 0 - 75 mm working stroke + 25 - 100 mm operational stroke
- double stroke cylinder with approach stroke and sequencing (DHZF) 0-100 mm approach stroke for working stroke , 0 - 100 mm operational stroke or 100 mm long stroke
- cylinder with extended force range 80 - 1200 daN
- cylinder with increased force range 300 - 1800 daN
- flow monitor for monitoring the cooling water amount
- adjusting device for raising and lowering the lower arm
- pressure-free lowering of upper arm via hand-valve
- electronic electrode force switch
- doubled secondary idling voltage
- 4-step switch mounted in switching cabinet
- main switch mounted in switching cabinet
- pressure-compensator to reconcile tool tolerances
- model as 3-phase direct current machine
- synchronised thyristor control unit acc. to choice

PMS 14-4

Resistance Welding machine

# Resistance Welding machine Type PMS 14-4

TECHNICAL DATA acc.to DIN 44753

			Nominal Throat Depth 250 mm 8)												
Group	Parameters		Model			Model			Model			Model			
			A	B	C	A	B	C	A	B	C	A	B	C	
Electrical Part	Machine power	Power rating (50 % d.c.)	kVA	100			125			160			200		
		Continuous output	kVA	70,7			88,4			113,1			141,4		
		Max. short-circuit power	kVA	444	634	636	547	684	737	697	836	870	748	893	969
		Maximum welding power	kVA	355	507	509	437	547	589	558	669	696	598	714	775
	Machine voltage	Secondary idling voltage	V	4,13/5,5/6,9/8,26			5,0/6,33/7,76/9,04			5,8/7,2/8,4/9,74			7,76/8,44/9,27/10,0		
		Number of regulating steps		0 i.e. 4 <sup>12)</sup>			0 i.e. 4 <sup>12)</sup>			0 i.e. 4 <sup>12)</sup>			0 i.e. 4 <sup>12)</sup>		
	Mains connection	Rated primary voltage	V	400			400			400			400		
		Rated primary current	A	263			329			421			526		
		Rated frequency	Hz	50			50			50			50		
		Supply power	kVA	266	380	382	328	410	442	418	501	522	449	535	581
		Main switch / Fusing <sup>1)</sup>	A	*/160	*/200	*/200	*/200	*/250	*/250	*/250	*/315	*/315	*/315	*/315	*/315
		Wire range <sup>13)</sup>	mm <sup>2</sup>	35	50	50	50	70	70	70	95	95	95	95	95
		Secondary current	Rated operating current	kA	11,98	12,0	12,07	13,58	13,65	13,73	16,05	16,12	16,26	19,69	19,76
	Permanent current <sup>2)</sup>		kA	8,47	8,49	8,54	9,6	9,65	9,71	11,35	11,4	11,5	13,92	13,97	14,0
	Short-circuit current		kA	53,5	73,5	75,5	60,0	75,5	80,0	70,7	85,4	88,0	74,0	87,0	93,8
Highest welding current	kA		42,8	58,8	60,4	48,0	60,4	64,0	56,6	68,3	70,4	59,2	69,6	75,0	
permitt. duty cycle at high. weld. cur. <sup>2)</sup>	%		3,9	2,0	2,0	4,0	2,5	2,3	4,0	2,8	2,7	5,5	4,0	3,5	
Mechanical Part	Cylinder EH	Electrode stroke max.	mm	100			100			100			100		
		Electrode force min. / max.	daN	200/1200 i.e. 80/1200 <sup>9)</sup> i.e. 300/1800 <sup>10)</sup>			200/1200 i.e. 80/1200 <sup>9)</sup> i.e. 300/1800 <sup>10)</sup>			200/1200 i.e. 80/1200 <sup>9)</sup> i.e. 300/1800 <sup>10)</sup>			200/1200 i.e. 80/1200 <sup>9)</sup> i.e. 300/1800 <sup>10)</sup>		
		Max. movements / 10mm stroke	min <sup>-1</sup>	400			400			400			400		
		Air consumption / 1000 strokes <sup>3)</sup>	m <sup>3</sup>	1,5 i.e. 1,65 <sup>10)</sup>			1,5 i.e. 1,65 <sup>10)</sup>			1,5 i.e. 1,65 <sup>10)</sup>			1,5 i.e. 1,65 <sup>10)</sup>		
	Cylinder DH, DHZ, DHZF	Electrode str. max. work. + oper. str.	mm	100 / DH = 75 + 25 / DHZ = 0 - 75 + 25 - 100 / DHZF = 0 - 100 + 0 - 100											
		Electrode force min. / max.	daN	200/1200 i.e. 80/1200 <sup>9)</sup> i.e. 300/1800 <sup>10)</sup> only DHZ α. DHZF											
		Max. movements / 10mm stroke	min <sup>-1</sup>	400			400			400			400		
		Air consumption / 1000 strokes <sup>3)</sup>	m <sup>3</sup>	1,7 i.e. 1,85 <sup>10)</sup>			1,7 i.e. 1,85 <sup>10)</sup>			1,7 i.e. 1,85 <sup>10)</sup>			1,7 i.e. 1,85 <sup>10)</sup>		
	Spot mounting	Throat gap min. / max.	mm	110/420			110/420			110/420			110/420		
		Electrode arm-Ø	mm	75			75			75			75		
		Electrode holder-Ø	mm	35 i.e. on-flange model at "B4"			35 i.e. on-flange model at "B4"			35 i.e. on-flange model at "B4"			35 i.e. on-flange model at "B4"		
		Electrode holder adjustability	mm	175			175			175			175		
		Spot electrode seat no. / outerØ	mm	3/25			3/25			3/25			3/25		
	Projection mounting	Clamping plate above WxD	mm	150 x 150			150 x 150			150 x 150			150 x 150		
		Clamping plate below WxD	mm	150 x 150			150 x 150			150 x 150			150 x 150		
Clamping plate sep. min. / max.		mm	150/460			150/460			150/460			150/460			
T-grooves/separation mm x no.1		mm	12 DIN 650/63 x 2			12 DIN 650/63 x 2			12 DIN 650/63 x 2			12 DIN 650/63 x 2			
Seam mounting	Roller electr.aboveØ cross / long	mm	---			---			---			---			
	Roller electr.below Ø cross / long <sup>3)</sup>	mm	---			---			---			---			
	Travel speed min/max.	m/min <sup>-1</sup>	---			---			---			---			
Comp. airt	Pipe conn. / nom. width / weight.		NW 16/R <sup>1/2"</sup>			NW 16/R <sup>1/2"</sup>			NW 16/R <sup>1/2"</sup>			NW 16/R <sup>1/2"</sup>			
	Operating press. min./max..	bar	6/10			6/10			6/10			6/10			
Cooling water	Pipe conn. / nom. width / weight.		NW20/R <sup>3/4"</sup>			NW20/R <sup>3/4"</sup>			NW20/R <sup>3/4"</sup>			NW20/R <sup>3/4"</sup>			
	Operating press. min. / max. <sup>1)</sup>	bar	2/5			2/5			2/5			2/5			
	Consumption at max. loading <sup>4)</sup>	l/min <sup>-1</sup>	10 i.e. 6 <sup>7)</sup>			12 i.e. 8 <sup>7)</sup>			12 i.e. 8 <sup>7)</sup>			14 i.e. 10 <sup>7)</sup>			
Machine dimensions	Width x depth x height <sup>4)</sup>	mm	870 x 1310 x 1705 EH/ 1761 DH/ 1825 DHZ/ 1873 DHZF/ 1760 EH <sup>10)</sup> / 2015 DHZF <sup>10)</sup>												
	Weight machine / cabinet <sup>6)</sup>	kg	630/70	645/70	640 <sup>11)</sup> /70	655/70	665/70	665 <sup>11)</sup> /70	680/70	675/70	675 <sup>11)</sup> /70	670/70	685/70	680 <sup>11)</sup> /70	
Shipping data	Gross weight	kg	920	935	930 <sup>11)</sup>	955	970	965	965	980	975 <sup>11)</sup>	970	985	980 <sup>11)</sup>	
	Box: Width x depth x height	mm	1020 x 1460 x 1855 EH/1910 DH/1975 DHZ/2025 DHZF/1910 EH <sup>10)</sup> /2165 DHZF <sup>10)</sup>												
	Volume	m <sup>3</sup>	2,8 EH/2,9 DH/3,0 DHZ, DHZF/2,9 EH <sup>10)</sup> /3,3 DHZF <sup>10)</sup>												
Op. Part	Welding values	Steel sheet C-content <0,2% <sup>5)</sup>	mm	12+12			12+12			12+12			12+12		
		Brass sheet <sup>5)</sup>	mm	6+6			6+6			7+7			7+7		
		Aluminium sheet <sup>5)</sup>	mm	4+4			4+4			5+5			5+5		
		Round steel Ø C-content < 0,2% <sup>5)</sup>	mm	26+26			26+26			28+28			28+28		
Power stage	Thyristor power stage	IW	1/500	1/700		1/700			1/700			1/700			
Notes	Technical alterations reserved. The table contents refer to standard models.														
	1) operating class. gL	7) excl. Thyristor power stage													
	2) at max. transformer level	8) act. throat depth = at model A + 5 mm / B, C – 20 mm													
	3) at operating pressure 6 bar, stroke 20 mm	9) special models with extended electrode force range													
	4) DH+12 kg, DHZ+15 kg, DHZF + 20 kg	10) special models with increased electrode force range													
5) subject to size influences	11) increased electrode force range + 15 kg														
6) excl. switching cabinet, width=570 mm	12) with 4-step switching														
	13) technical data upon request														
	14) circulatory cooling = pressure difference between recooling /cooling water														
	15) cable length < 15 m														