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### MOTORPAL OEM MATERIALS FITTED ON ČKD HOŘOVICE

Pump type	Motorpal Ref.No.	Motorpal Code	Motorpal Ref.	Motorpal Code	Original Ref.No.
PV2B7P310g-	335	990.0335	Element	EB7PG	60410-33
			D/Valve		60041-03
PV3B7P110g-	376	990.0376	Element	EB7PG	60410-33
			D/Valve		60041-03
PV3B7P110g-	377	990.0377	Element	EB7PG	60410-33
			D/Valve		60041-03
PV4B7P310g-	1443	990.1443	Element	EB7PG	60410-33
			D/Valve		60041-03
PV4B7P310g-	1445	990.1445	Element	EB7PG	60410-33
			D/Valve		60041-03
PV6B7P110g-	1658	990.1658	Element	EB7PG	60410-33
			D/Valve		60041-03
PV6B7P110g-	1659	990.1659	Element	EB7PG	60410-33
			D/Valve		60041-03

Various other components for these injection pumps can be offered upon request

### MOTORPAL MATERIALS FOR DEUTZ 912, 913, 1011

Kind	MOTORPAL Ref.	DEUTZ Ref.	Other Ref.	DEUTZ Engines	Notes
Injector	9904523	04178021	0 432 191 623	DEUTZ B/F1011F	
Injector	9904555	04231554	0 432 191 582	DEUTZ FL912, 913	Deutz Algeria
Nozzle	DLLA144P527	04178015	0 433 171 390	DEUTZ B/F1011F	used on 9904523
Nozzle	DLLA147P658	04231556	0 433 171 478	DEUTZ FL912, 913	used on 9904555
Timing device	990.1453	04235718		DEUTZ 912	
Timing device	990.1454	04235692		DEUTZ 912	
Timing device	990.1455	04235801		DEUTZ 912	

## MOTORPAL OEM MATERIALS FITTED ON ANDORIA

(Engines 4C90, 4CT90, 4CT90WSW)

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP4M7P1e-	3073	990.3073	Element	EM7PE	60403-08
			D/Valve		60042-56
			Fuel inj.unit		60503-23
PP4M7P1e-	3083	990.3083	Element	EM7PE	60403-08
			D/Valve		60042-56
			Fuel inj.unit		60503-23
PP4M7P1e-	3097	990.3097	Element	EM7PE	60403-08
			D/Valve		60042-56
			Fuel inj.unit		60503-23
PP4M7P1e- <u>Obsolete - Only spare parts</u>	3134	990.3134	Element	EM7PE	60403-08
			D/Valve		60042-56
			Fuel inj.unit		60503-23
PP4M7P1g-	3175	990.3175	Element	EM7PE	60403-08
			D/Valve		60042-56
			Fuel inj.unit		60503-23
PP4M7P1g-	3176	990.3176	Element	EM7PE	60403-08
			D/Valve		60042-56
			Fuel inj.unit		60503-23
PP4M7P1g- <u>Utilized mainly by DAEWOO LUBLIN</u>	3497	990.3497	Element	EM7PE	60403-08
			D/Valve		60042-56
			Fuel inj.unit		60503-23

### MOTORPAL FUEL INJECTION UNIT FOR ANDORIA

60503-23

Composed of element 60403-08 and d/valve 60042-56

### MOTORPAL FEED PUMP FOR ANDORIA

CD3M3552

990.3552

### MOTORPAL NOZZLES FOR ANDORIA

DN0SD256A

DN0SD297A

### MOTORPAL OTHER D/VALVE FOR ANDORIA

60042-62

## MOTORPAL OEM MATERIALS FITTED ON ANDORIA - AUTOSAN

(Engines 4CT107/A7 - 6CT107/A7 - 6CT107-3/14)

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP4M10P1i-	3503	990.3503	Element	EM10Pi-62	60403-62
			D/Valve		60042-95
			D/Valve		60042-97
			Fuel inj.unit		60503-62
PP6M10P1i-	3502	990.3502	Element	EM10Pi-62	60403-62
			D/Valve		60042-95
			D/Valve		60042-97
			Fuel inj.unit		60503-62
PP6M10P1i-	3547	990.3547	Element	EM10Pi-48	60403-48
			D/Valve		60042-97
			Fuel inj.unit		60503-79

## MOTORPAL FUEL INJECTION UNIT FOR ANDORIA - AUTOSAN

60503-62

60503-79

Composed of element 60403-48 and d/valve 60042-97

## MOTORPAL FEED PUMP FOR ANDORIA - AUTOSAN

CD5M3565

990.3565

## MOTORPAL OEM MATERIALS FITTED ON AVIA

(D712.01, ..03, ..11, ..18)

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP4M7P1e-	2490	990.2490	Element	EM7PE	60403-08
			D/Valve		60042-56
			Fuel inj.unit		60503-08
			Feed pump	CD2M2293	990.2293
PP4M7P1e-	2491	990.2491	Element	EM7PE	60403-08
			D/Valve		60042-56
			Fuel inj.unit		60503-08
			Feed pump	CD2M2293	990.2293
PP4M7P1e-	2496	990.2496	Element	EM7PE	60403-08
			D/Valve		60042-56
			Fuel inj.unit		60503-08
			Feed pump	CD2M2294	990.2294
PP4M7P1e-	2497	990.2497	Element	EM7PE	60403-08
			D/Valve		60042-56
			Fuel inj.unit		60503-08
			Feed pump	CD2M2294	990.2294
PP4M7P1e-	2498	990.2498	Element	EM7PE	60403-08
			D/Valve		60042-56
			Fuel inj.unit		60503-08
			Feed pump	CD2M2294	990.2294
PP4M7P1e-	2499	990.2499	Element	EM7PE	60403-08
			D/Valve		60042-56
			Fuel inj.unit		60503-08
			Feed pump	CD2M2294	990.2294

### MOTORPAL FUEL INJECTION UNITS FOR AVIA

60503-08

Composed of element 60403-08 and d/valve 60042-56

### MOTORPAL INJECTORS AND NOZZLES FOR AVIA

VA76S453-2699

990.2699

Nozzle

DOP18S160-1425

VA77S453-2630

990.2630

Nozzle

DOP18S160-1425

### MOTORPAL OTHER ELEMENT FOR AVIA

EM7PC

60403-11

### MOTORPAL OTHER D/VALVE FOR AVIA

60042-51

**MOTORPAL INJECTION PUMPS FOR MMZ - MTZ - VMTZ - ALTAJSKIJ ZÁVOD CHARKOVSKIJ ZÁVOD  
AGRO - BELGO - URAL.Z - MMZ (MINSKIJ MOTORNYJ ZAVOD = MINSK MOTOR PLANT)**

**SOME MMZ ENGINES WITH MOTORPAL INJECTION PUMP ARE FITTED ON  
FITTED ON BELARUS/MTZ -MMZ/PAZ - MMZ/GAZ - MMZ-AMK**

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP3M10P1f-	4609	990.4609	Element	EM10Pf-31	60403-31
			D/Valve		60042-69
			Fuel inj.unit		60503-03
			Feed pump		CD3M3554
PP3M10P3f-	4278	990.4278	Element	EM10Pf-31	60403-31
			D/Valve		60042-69
			Fuel inj.unit		60503-03
			Feed pump		CD3M3554
PP3M10P3f-	4281	990.4281	Element	EM10Pf-31	60403-31
			D/Valve		60042-69
			Fuel inj.unit		60503-03
			Feed pump		CD3M3554
PP3M10P3f-	4282	990.4282	Element	EM10Pf-31	60403-31
			D/Valve		60042-69
			Fuel inj.unit		60503-03
			Feed pump		CD3M3554
PP3M10P3f-	4610	990.4610	Element	EM10Pf-31	60403-31
			D/Valve		60042-69
			Fuel inj.unit		60503-03
			Feed pump		CD3M3554
PP4M9P1g-	4269	990.4269	Element	EM10Pe	60403-43
			D/Valve		60042-58
			Fuel inj.unit		60503-94
			Feed pump		CD3M3554
PP4M9P1g-	4270	990.4270	Element	EM10Pe	60403-43
			D/Valve		60042-58
			Fuel inj.unit		60503-94
			Feed pump		CD3M3554
PP4M10P1f-	3431	990.3431	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	3439	990.3439	Element	EM10Pf-37	60403-37
			D/Valve		60042-62
			Fuel inj.unit		60503-44
			Feed pump		CD3M3554
PP4M10P1f-	3451	990.3451	Element	EM10Pf-37	60403-37
			D/Valve		60042-62
			Fuel inj.unit		60503-44
			Feed pump		CD3M3554

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP4M10P1f-	3457	990.3457	Element	EM10Pf-37	60403-37
			D/Valve		60042-62
			Fuel inj.unit		60503-44
			Feed pump		CD3M3554
PP4M10P1f-	3470	990.3470	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	3475	990.3475	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	3477	990.3477	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	3477G	990.3477G	Element	EM10Pe	60403-43
			D/Valve		60042-58
			Fuel inj.unit		60503-94
			Feed pump		CD3M3554
PP4M10P1f-	3478	990.3478	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	3478G	990.3478G	Element	EM10Pe	60403-43
			D/Valve		60042-58
			Fuel inj.unit		60503-94
			Feed pump		CD3M3554
PP4M10P1f-	3479	990.3479	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	3480	990.3480	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	3480G	990.3480G	Element	EM10Pe	60403-43
			D/Valve		60042-58
			Fuel inj.unit		60503-94
			Feed pump		CD3M3554
PP4M10P1f-	3481	990.3481	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554



Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP4M10P1f-	4204	990.4204	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4205	990.4205	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4218	990.4218	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4221	990.4221	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4223	990.4223	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4224	990.4224	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4225	990.4225	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4226	990.4226	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4227	990.4227	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4228	990.4228	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4240	990.4240	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP4M10P1f-	4244	990.4244	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4255	990.4255	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4267	990.4267	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4284	990.4284	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4285	990.4285	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4286	990.4286	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4290	990.4290	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4292	990.4292	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4601	990.4601	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1f-	4604	990.4604	Element	EM10Pf-31	60403-31
			D/Valve		60042-69
			Fuel inj.unit		60503-03
			Feed pump		CD3M3554
PP4M10P1f-	4605G	990.4605G	Element	EM10Pe	60403-43
			D/Valve		60042-58
			Fuel inj.unit		60503-94
			Feed pump		CD3M3554

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP4M10P1f-	4618	990.4618	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1i-	3527	990.3527	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	3530	990.3530	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	3532	990.3532	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	3701	990.3701	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	3703	990.3703	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	3704	990.3704	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	3705	990.3705	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	4336	990.4336	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	4339	990.4339	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	4340	990.4340	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP4M10P1i-	4342	990.4342	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	4343	990.4343	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	4344	990.4344	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	4358	990.4358	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	4360	990.4360	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	4361	990.4361	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	4362	990.4362	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	4363	990.4363	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	4364	990.4364	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	4365	990.4365	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	4376	990.4376	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP4M10P1i-	4393	990.4393	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	4412	990.4412	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	4413	990.4413	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10P1i-	4414	990.4414	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP4M10U1f-	3436	990.3436	Element	EM10Uf-57	60403-57
			D/Valve		60042-62
			Fuel inj.unit		60503-59
			Feed pump		CD3M3554
PP4M10U1f-	3440	990.3440	Element	EM10Uf-57	60403-57
			D/Valve		60042-62
			Fuel inj.unit		60503-59
			Feed pump		CD3M3554
PP4M10U1f-	3482	990.3482	Element	EM10Uf-57	60403-57
			D/Valve		60042-62
			Fuel inj.unit		60503-59
			Feed pump		CD3M3554
PP4M10U1f-	3483	990.3483	Element	EM10Uf-57	60403-57
			D/Valve		60042-62
			Fuel inj.unit		60503-59
			Feed pump		CD3M3554
PP4M10U1f-	3483G	990.3483G	Element	EM10Pe	60403-43
			D/Valve		60042-58
			Fuel inj.unit		60503-94
			Feed pump		CD3M3554
PP4M10U1f-	3485	990.3485	Element	EM10Uf-57	60403-57
			D/Valve		60042-62
			Fuel inj.unit		60503-59
			Feed pump		CD3M3554
PP4M10U1f-	3486	990.3486	Element	EM10Uf-57	60403-57
			D/Valve		60042-62
			Fuel inj.unit		60503-59
			Feed pump		CD3M3554

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP4M10U1f-	3486G	990.3486G	Element	EM10Pe	60403-43
			D/Valve		60042-58
			Fuel inj.unit		60503-94
			Feed pump		CD3M3554
PP4M10U1f-	3487	990.3487	Element	EM10Uf-57	60403-57
			D/Valve		60042-62
			Fuel inj.unit		60503-59
			Feed pump		CD3M3554
PP4M10U1f-	3488	990.3488	Element	EM10Uf-57	60403-57
			D/Valve		60042-62
			Fuel inj.unit		60503-59
			Feed pump		CD3M3554
PP4M10U1f-	3488G	990.3488G	Element	EM10Pe	60403-43
			D/Valve		60042-58
			Fuel inj.unit		60503-94
			Feed pump		CD3M3554
PP4M10U1f-	4233	990.4233	Element	EM10Uf-57	60403-57
			D/Valve		60042-62
			Fuel inj.unit		60503-59
			Feed pump		CD3M3554
PP4M10U1f-	4283G	990.4283G	Element	EM10Pe	60403-43
			D/Valve		60042-58
			Fuel inj.unit		60503-94
			Feed pump		CD3M3554
PP4M10U1i-	3793	990.3793	Element	EM10Ui-75	60403-75
			D/Valve		60042-97
			Fuel inj.unit		60503-01
			Feed pump		CD4M3569
PP4M10U1i-	3794	990.3794	Element	EM10Ui-75	60403-75
			D/Valve		60042-97
			Fuel inj.unit		60503-01
			Feed pump		CD4M3569
PP4M10U1i-	3795	990.3795	Element	EM10Ui-75	60403-75
			D/Valve		60042-97
			Fuel inj.unit		60503-01
			Feed pump		CD4M3569
PP4M10U1i-	3796	990.3796	Element	EM10Ui-75	60403-75
			D/Valve		60042-97
			Fuel inj.unit		60503-01
			Feed pump		CD4M3569
PP4M10U1i-	4377	990.4377	Element	EM10Ui-75	60403-75
			D/Valve		60042-97
			Fuel inj.unit		60503-01
			Feed pump		CD4M3569

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP6M10P1f-	3462	990.3462	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	3476	990.3476	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	3491	990.3491	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	3492	990.3492	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	3493	990.3493	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	4200	990.4200	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	4203	990.4203	Element	EM10Pf-31	60403-31
			D/Valve		60042-62
			Fuel inj.unit		60503-04
			Feed pump		CD3M3554
PP6M10P1f-	4219	990.4219	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP6M10P1f-	4220	990.4220	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP6M10P1f-	4222	990.4222	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	4231	990.4231	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP6M10P1f-	4234	990.4234	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	4234	990.4234	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	4236	990.4236	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	4241	990.4241	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	4243	990.4243	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	4245	990.4245	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	4248	990.4248	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	4260	990.4260	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP6M10P1f-	4287	990.4287	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP6M10P1f-	4291	990.4291	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	4293	990.4293	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554



Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP6M10P1f-	4294	990.4294	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	4295	990.4295	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	4296	990.4296	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	4297	990.4297	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	4298	990.4298	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	4299	990.4299	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump		CD3M3554
PP6M10P1f-	4606	990.4606	Element	EM10Pf-31	60403-31
			D/Valve		60042-62
			Fuel inj.unit		60503-04
			Feed pump		CD3M3554
PP6M10P1f-	4612	990.4612	Element	EM10Pf-31	60403-31
			D/Valve		60042-62
			Fuel inj.unit		60503-04
			Feed pump		CD3M3554
PP6M10P1i-	3535	990.3535	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	3707	990.3707	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	3708	990.3708	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP6M10P1i-	3709	990.3709	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	3710	990.3710	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	3711	990.3711	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	3712	990.3712	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	3754	990.3754	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	4301	990.4301	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	4320	990.4320	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	4321	990.4321	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	4322	990.4322	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	4323	990.4323	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	4324	990.4324	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP6M10P1i-	4325	990.4325	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	4326	990.4326	Element	EM10Pi-68	60403-68
			D/Valve		60042-97
			Fuel inj.unit		60503-82
			Feed pump		CD4M3569
PP6M10P1i-	4330	990.4330	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	4341	990.4341	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	4345	990.4345	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	4353	990.4353	Element	EM10P-61	60403-61
			D/Valve		60042-97
			Fuel inj.unit		60503-76
			Feed pump		CD4M3569
PP6M10P1i-	4354	990.4354	Element	EM10P-61	60403-61
			D/Valve		60042-97
			Fuel inj.unit		60503-76
			Feed pump		CD4M3569
PP6M10P1i-	4359	990.4359	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	4399	990.4399	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	4415	990.4415	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569
PP6M10P1i-	4416	990.4416	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump		CD4M3569

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP6M10P1i-	4418	990.4418	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump	CD4M3569	990.3569
PP6M10P1i-	4439	990.4439	Element	EM10Pi-71	60403-71
			D/Valve		60042-97
			Fuel inj.unit		60503-89
			Feed pump	CD4M3569	990.3569
PP6M10U1f-	3489	990.3489	Element	EM10Uf-57	60403-57
			D/Valve		60042-62
			Fuel inj.unit		60503-60
			Feed pump	CD3M3554	990.3554

### MOTORPAL FUEL INJECTION UNITS FOR MMZ

60503-01	Composed of element 60403-75 + d/valve 60042-97 + other components
60503-03	Composed of element 60403-31 + d/valve 60042-69 + other components
60503-04	Composed of element 60403-31 + d/valve 60042-62 + other components
60503-44	Composed of element 60403-37 + d/valve 60042-62 + other components
60503-54	Composed of element 60403-41 + d/valve 60042-62 + other components
60503-55	Composed of element 60403-41 + d/valve 60042-62 + other components
60503-59	Composed of element 60403-57 + d/valve 60042-62 + other components
60503-60	Composed of element 60403-57 + d/valve 60042-62 + other components
60503-76	Composed of element 60403-61 + d/valve 60042-97 + other components
60503-82	Composed of element 60403-68 + d/valve 60042-97 + other components
60503-89	Composed of element 60403-71 + d/valve 60042-97 + other components
60503-94	Composed of element 60403-43 + d/valve 60042-58 + other components

## MOTORPAL INJECTORS AND NOZZLES FOR MMZ

VA70P360-2981	990.2981	Nozzle DOP146P525-3510
VA70P360-2983	990.2983	Nozzle DOP140P527-3823
VA148P360-2984	990.2984	Nozzle DOP150P537-3808
VA70P360-2994	990.2994	Nozzle DOP140P529-3824
VA70P360-2995	990.2995	Nozzle DOP140P533-3825
VA70P360-2996	990.2996	Nozzle DOP140P528-3826
VA70P360-2997	990.2997	Nozzle DOP122P533-3827
VA70P360-2998	990.2998	Nozzle DOP146P426-3503

## NZTA

Pump type	Motorpal ref.No.	Motorpal Code	Motorpal Ref.	Motorpal Code	
PP4M9P1g-	4201	990.4201	Element	EM10Pe	60403-43
			D/Valve		60042-58
			Fuel inj.unit		60503-94
			Feed pump	CD3M3554	990.3554

## VMTZ (VLADIMIRSKIJ MOTORO-TRAKTORNYI ZAVOD)

Pump type	Motorpal ref.No.	Motorpal Code	Motorpal Ref.	Motorpal Code	
PP2M10P1f-	4246	990.4246	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump	CD3M3554	990.3554
PP2M10P1f-	4249	990.4249	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump	CD3M3554	990.3554
PP2M10P1f-	4250	990.4250	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump	CD3M3554	990.3554
PP2M10P1f-	4251	990.4251	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump	CD3M3554	990.3554
PP3M10P1f-	4209	990.4209	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump	CD3M3554	990.3554
PP3M10P1f-	4210	990.4210	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump	CD3M3554	990.3554
PP3M10P1f-	4238	990.4238	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump	CD3M3554	990.3554

Pump type	Motorpal ref.No.	Motorpal Code	Motorpal Ref.	Motorpal Code	
PP4M10P1f-	4206	990.4206	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump	CD3M3554	990.3554
PP4M10P1f-	4207	990.4207	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump	CD3M3554	990.3554
PP4M10P1f-	4208	990.4208	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump	CD3M3554	990.3554
PP4M10P1f-	4216	990.4216	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump	CD3M3554	990.3554
PP4M10P1f-	4239	990.4239	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump	CD3M3554	990.3554
PP4M10P1f-	4247	990.4247	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump	CD3M3554	990.3554

### MOTORPAL FUEL INJECTION UNITS FOR VMTZ

60503-55

Composed of element 60403-41 + d/valve 60042-62  
+ other components

### MOTORPAL FUEL INJECTORS AND NOZZLES FOR VMTZ

VA96P360-2793	990.2793	Nozzle DOP135P336-3832
VA96P360-2794	990.2794	Nozzle DOP135P338-3833
VA100S950-3035	990.3035	Nozzle DOP135P333-4162

### MOTORPAL INJECTORS FOR AGRO

VS100S950-3035	990.3035	Nozzle DOP135S333-4162
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### MOTORPAL NOZZLES FOR AGRO

DOP122S531-4167
DOP122S532-4164
DOP122S535-4166
DOP135S333-4162
DOP149S430-4170
DOP154S434-4160
DOP154S435-4159
DOP154S438-4161

**AMZ**

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP4M10P1f-	4202	990.4202	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump		CD3M3554
PP4M10P1i-	4379	990.4379	Element	EM10Pi-66	60403-66
			D/Valve		60042-93
			Fuel inj.unit		60503-83
			Feed pump		CD4M3569
PP4M10P1i-	4380	990.4380	Element	EM10Pi-66	60403-66
			D/Valve		60042-93
			Fuel inj.unit		60503-83
			Feed pump		CD4M3569
PP4M10P1i-	4381	990.4381	Element	EM10Pi-66	60403-66
			D/Valve		60042-93
			Fuel inj.unit		60503-83
			Feed pump		CD4M3569
PP4M10P1i-	4382	990.4382	Element	EM10Pi-66	60403-66
			D/Valve		60042-93
			Fuel inj.unit		60503-83
			Feed pump		CD4M3569
PP4M10P1i-	4383	990.4383	Element	EM10Pi-66	60403-66
			D/Valve		60042-93
			Fuel inj.unit		60503-83
			Feed pump		CD4M3569
PP4M10P1i-	4384	990.4384	Element	EM10Pi-66	60403-66
			D/Valve		60042-93
			Fuel inj.unit		60503-83
			Feed pump		CD4M3569
PP6M10P1i-	4422	990.4422	Element	EM10Pi-66	60403-66
			D/Valve		60042-93
			Fuel inj.unit		60503-83
			Feed pump		CD4M3569
PP6M10P1i-	4423	990.4423	Element	EM10Pi-66	60403-66
			D/Valve		60042-93
			Fuel inj.unit		60503-83
			Feed pump		CD4M3569
PP6M10P1i-	4424	990.4424	Element	EM10Pi-66	60403-66
			D/Valve		60042-93
			Fuel inj.unit		60503-83
			Feed pump		CD4M3569

## BMTZ

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PP4M10P1f-	4214	990.4214	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump	CD3M3554	990.3554
PP4M10P1f-	4215	990.4215	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-55
			Feed pump	CD3M3554	990.3554
PP4M10P1f-	4271	990.4271	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump	CD3M3554	990.3554
PP6M10P1f-	4232	990.4232	Element	EM10Pf-41	60403-41
			D/Valve		60042-62
			Fuel inj.unit		60503-54
			Feed pump	CD3M3554	990.3554

## MOTORPAL INJECTORS FOR URAL.Z

VA128T903-3002	990.3002
VA128T903-3004	990.3004



## MOTORPAL OEM MATERIALS FITTED ON INDIAN ENGINES

(KIRLOSKAR OIL ENGINES - CUMMINS INDIA - GREAVES COTTON)

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code	Original RefNo.
PP6M10K1f-	3196	990.3196	Element	EM10KF-34	60403-34	
			D/Valve		60042-62	
			Fuel inj.unit		60503-41	
			Feed pump	CD3M3552	990.3552	
PP6M10U1f-	3417	990.3417	Element	EM10UF-58	60403-58	
			D/Valve		60042-62	
			Fuel inj.unit		60503-78	
			Feed pump	CD3M3552	990.3552	
PP6M10U1f-	3425	990.3425	Element	EM10UF-58	60403-58	
			D/Valve		60042-62	
			Fuel inj.unit		60503-78	
			Feed pump	CD3M3552	990.3552	
PP6M10P1f-	3511	990.3511	Element	EM10PF-41	60403-41	
			D/Valve		60042-62	
			Fuel inj.unit		60503-64	
			Feed pump	CD3M3550	990.3550	
PP6M10K1f-	3514	990.3514	Element	EM10KF-34	60403-34	
			D/Valve		60042-62	
			Fuel inj.unit		60503-41	
			Feed pump	CD3M3552	990.3552	
PP6M10K1f-	3518	990.3518	Element	EM10KF-34	60403-34	
			D/Valve		60042-62	
			Fuel inj.unit		60503-41	
			Feed pump	CD3M3552	990.3552	
PP4M10P1i-	3738	990.3738	Element	EM10PI-66	60403-66	
			D/Valve		60042-93	
			Fuel inj.unit		60503-83	
			Feed pump	CD4M3569	990.3569	
PP6M10P1i-	3520	990.3520	Element	EM10PI-53	60403-53	
			D/Valve		60042-97	
			Fuel inj.unit		60503-74	
			Feed pump	CD5M3565	990.3565	
PP6M10U1i-	3542	990.3542	Element	EM10UI-65	60403-65	
			D/Valve		60042-93	
			Fuel inj.unit		60503-77	
			Feed pump	CD5M3565	990.3565	
PP6M10U1i-	3543	990.3543	Element	EM10UI-65	60403-65	
			D/Valve		60042-93	
			Fuel inj.unit		60503-77	
			Feed pump	CD5M3565	990.3565	

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code	Original ref.No.	
PP6M10U1i-	3544	990.3544	Element	EM10UI-65	60403-65		
			D/Valve				60042-93
			Fuel inj.unit				60503-77
			Feed pump				CD5M3565
PP6M10U1i-	3549	990.3549	Element	EM10U11-67	60403-67		
			D/Valve				60042-17
			Fuel inj.unit				60503-81
			Feed pump				CD5M3565
PP6M10U1i-	3737	990.3737	Element	EM10U11-67	60403-67		
			D/Valve				60042-17
			Fuel inj.unit				60503-81
			Feed pump				CD5M3565
PP6M10P1i-	3744	990.3744	Element	EM10UI-65	60403-65		
			D/Valve				60042-93
			Fuel inj.unit				60503-77
			Feed pump				CD5M3565
PP6M10P1i-	3745	990.3745	Element	EM10UI-65	60403-65		
			D/Valve				60042-93
			Fuel inj.unit				60503-77
			Feed pump				CD5M3565
PP6M10P1i-	3746	990.3746	Element	EM10UI-65	60403-65		
			D/Valve				60042-93
			Fuel inj.unit				60503-77
			Feed pump				CD5M3565
PP6M10P1i-	3748	990.3748	Element	EM10PI-53	60403-53		
			D/Valve				60042-97
			Fuel inj.unit				60503-85
			Feed pump				CD5M3565
PP6M10U1i-	3752	990.3752	Element	EM10U11-67	60403-67		
			D/Valve				60042-17
			Fuel inj.unit				60503-81
			Feed pump				CD5M3565
PP6M10U1i- KOEL	3763 F6.029.56.0.PR	990.3763	Element	EM10UI-65	60403-65		
			D/Valve				60042-93
			Fuel inj.unit				60503-90
			Feed pump				CD5M3565
PP6M10U1i-	3764	990.3764	Element	EM10UI-65	60403-65		
			D/Valve				60042-93
			Fuel inj.unit				60503-90
			Feed pump				CD5M3565
PP6M10U1i-	4306	990.4306	Element	EM10UI-65	60403-65		
			D/Valve				60042-93
			Fuel inj.unit				60503-77
			Feed pump				CD5M3565

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code	Original ref.No.	
PP6M10U1i-	4307	990.4307	Element	EM10UI-65	60403-65		
			D/Valve				60042-93
			Fuel inj.unit				60503-77
			Feed pump				CD5M3565
PP6M10U1i-	4308	990.4308	Element	EM10UI-65	60403-65		
			D/Valve				60042-93
			Fuel inj.unit				60503-77
			Feed pump				CD5M3565
PP6M10U1i-	4309	990.4309	Element	EM10U11-67	60403-67		
			D/Valve				60042-17
			Fuel inj.unit				60503-81
			Feed pump				CD5M3565
PP6M10U1i-	4310	990.4310	Element	EM10U11-67	60403-67		
			D/Valve				60042-17
			Fuel inj.unit				60503-81
			Feed pump				CD5M3565
PP6M10U1i-	4335	990.4335	Element	EM10U11-67	60403-67		
			D/Valve				60042-17
			Fuel inj.unit				60503-81
			Feed pump				CD5M3565
PP6M10U1i-	4373	990.4373	Element	EM10UI-65	60403-65		
			D/Valve				60042-93
			Fuel inj.unit				60503-77
			Gasket kit				45010-06

### MOTORPAL FUEL INJECTION UNITS FOR INDIAN ENGINES

60503-41	60403-34	+ 60042-62 + Other components
60503-64	60403-41	+ 60042-62 + Other components
60503-74	60403-53	+ 60042-97 + Other components °
60503-77	60403-65	+ 60042-93 + Other components *
60503-78	60403-58	+ 60042-62 + Other components
60503-81	60403-67	+ 60042-17 + Other components
60503-83	60403-66	+ 60042-93 + Other components
60503-85	60403-53	+ 60042-97 + Other components °
60503-90	60403-65	+ 60042-93 + Other components *

### MOTORPAL NOZZLES AND INJECTORS FOR KIRLOSKAR

DOP130P528-3897		Nozzle
VA889160-2985	990.2985	Injector with nozzle DOP130P528-3897

### MOTORPAL INJECTION PUMPS FOR KUKJE

Pump type	Motorpal ref.No.	Motorpal Code	Kukje ref.No.	Motorpal Ref.	Motorpal Code	
PP4M7P1g-	3428	990.3428		Element	EM7PE	60403-08
				D/Valve		60042-99
				Fuel inj.unit		60503-75
PP3M10P1f-	3437	990.3437		Element	EM10PF-31	60403-31
				D/Valve		60042-61
				Fuel inj.unit		60503-72
PP3M10P1f-	3444	990.3444		Element	EM10PF-37	60403-37
				D/Valve		60042-61
				Fuel inj.unit		60503-65
PP3M9P1f-	3473	990.3473		Element	EM9PF-38	60403-38
				D/Valve		60042-61
				Fuel inj.unit		60503-58
PP3M9P1f-	3474	990.3474		Element	EM9PF-38	60403-38
				D/Valve		60042-61
				Fuel inj.unit		60503-58
				Feed pump	CD3M3568	990.3568
PP4M10P1i-	3777	990.3777	EA00000418A	Element	EM10PI-72	60403-72
				D/Valve		60042-17
				Fuel inj.unit		60503-92
PP4M10P1i-	3778	990.3778	HRJ1300100A1	Element	EM10PI-72	60403-72
				D/Valve		60042-17
				Fuel inj.unit		60503-92
PP4M10P1i-	3798	990.3798	EA00000340A	Element	EM10PI-72	60403-72
				D/Valve		60042-17
				Fuel inj.unit		60503-92
				Feed pump	CD4M3569	990.3569
PP4M10P1i-	3799	990.3799	EA00000376A	Element	EM10PI-72	60403-72
				D/Valve		60042-17
				Fuel inj.unit		60503-92
				Feed pump	CD4M3569	990.3569

### MOTORPAL FUEL INJECTION UNITS FOR KUKJE

60503-58	Composed of element 60403-38 + d/valve 60042-61
60503-65	Composed of element 60403-37 + d/valve 60042-61
60503-72	Composed of element 60403-31 + d/valve 60042-61
60503-75	Composed of element 60403-08 + d/valve 60042-99
60503-92	Composed of element 60403-72 + d/valve 60042-17

### MOTORPAL INJECTORS AND NOZZLES FOR KUKJE

VA105P360-4500	990.4500	Nozzle DOP150P518-3884
VA105P360-4502	990.4502	Nozzle DOP150P618-3882
VA105P360-4504	990.4504	Nozzle DOP150P618-3882
VA105P360-4505	990.4505	Nozzle DOP150P520-3880

### MOTORPAL OEM MATERIALS FITTED ON LIAZ

Pump type	Motorpal ref.No.	Motorpal Code		Motorpal Ref.	Motorpal Code
PV6B9P215g-	1627	990.1627	Element	EB9PG	60410-36
			D/Valve		60041-03
			Feed pump	CD1A2298	990.2298
PV6B9P215g-	1628	990.1628	Element	EB9PG	60410-36
			D/Valve		60041-03
			Feed pump	CD1A2298	990.2298
PV6B9P215g-	1630	990.1630	Element	EB9PG	60410-36
			D/Valve		60041-03
			Feed pump	CD1A2298	990.2298
PV6B9P215g-	1631	990.1631	Element	EB9PG	60410-36
			D/Valve		60041-03
			Feed pump	CD1A2298	990.2298
PV6B9P215g-	1632	990.1632	Element	EB9PG	60410-36
			D/Valve		60041-03
			Feed pump	CD1A2298	990.2298
PV6B9P215g-	1633	990.1633	Element	EB9PG	60410-36
			D/Valve		60041-03
			Feed pump	CD1A2298	990.2298
PV6B9P215g-	1636	990.1636	Element	EB9PG	60410-36
			D/Valve		60041-03
			Feed pump	CD1A2298	990.2298
PV6B9P215g-	1645	990.1645	Element	EB9PG	60410-36
			D/Valve		60041-03
			Feed pump	CD1A2298	990.2298
PV6B9P215g-	1646	990.1646	Element	EB9PG	60410-36
			D/Valve		60041-03
			Feed pump	CD1A2298	990.2298
PV6B9P215g-	1660	990.1660	Element	EB9PG	60410-36
			D/Valve		60041-03
			Feed pump	CD1A2298	990.2298
PV6B9P215i-	1693	990.1693	Element	EB9PG-39	60410-39
			Element	EB9PG	60410-36
			D/Valve		60041-03
			Feed pump	CD1A2299	990.2299

Various other components for these injection pumps can be offered upon request

**MOTORPAL INJECTION PUMPS FOR MMZ (MINSKIJ MOTORNYJ ZAVOD=MINSK MOTOR PLANT) ENGINES**  
**FITTED AS OEM ON MAZ (MINSKIJ AVTOMOBILNYJ ZAVOD = MINSK AUTOMOTIVE PLANT)**

Pump type	Motorpal ref.No.	Motorpal Code	Engine Type		Motorpal Ref.	Motorpal Code
PP4M10P1f-	3451	990.3451	D-245.9	Element	EM10PF-37	60403-37
				D/Valve		60042-62
				Fuel inj.unit		60503-44
				Feed pump	CD3M3554	990.3554
				Gasket kit		45010-02
				Start solenoid		-----
				Stop solenoid		-----
PP4M10P1i-	3527	990.3527	D-245.9E2	Element	EM10PI-68	60403-68
				D/Valve		60042-97
				Fuel inj.unit		60503-82
				Feed pump	CD4M3569	990.3569
				Gasket kit		45010-06
				Start solenoid		37098868
				Stop solenoid		37098341
PP4M10P1i-	3530	990.3530	D-245.7E2	Element	EM10PI-68	60403-68
				D/Valve		60042-97
				Fuel inj.unit		60503-82
				Feed pump	CD4M3569	990.3569
				Gasket kit		45010-06
				Start solenoid		37098274
				Stop solenoid		37098342
PP4M10P1i-	3532	990.3532	D-245.30E2	Element	EM10PI-68	60403-68
				D/Valve		60042-97
				Fuel inj.unit		60503-82
				Feed pump	CD4M3569	990.3569
				Gasket kit		45010-06
				Stop solenoid		-----
				PP4M10P1i-		4360
D/Valve	60042-97					
Fuel inj.unit	60503-82					
Feed pump	CD4M3569	990.3569				
Gasket kit		45010-06				
Start solenoid		37098274				
Stop solenoid		-----				
PP4M10P1i-	4361	990.4361	D-245.7E2	Element	EM10PI-68	60403-68
				D/Valve		60042-97
				Fuel inj.unit		60503-82
				Feed pump	CD4M3569	990.3569
				Gasket kit		45010-06
				Start solenoid		37098274
				Stop solenoid		-----

Pump type	Motorpal ref.No.	Motorpal Code	Engine Type		Motorpal Ref.	Motorpal Code	
PP4M10P1i-	4362	990.4362	D-245.7E2	Element	EM10PI-68	60403-68	
				D/Valve		60042-97	
				Fuel inj.unit		60503-82	
				Feed pump		CD4M3569	990.3569
				Gasket kit			45010-06
				Start solenoid			37098868
				Stop solenoid			-----
PP4M10P1i-	4363	990.4363	D-245.9E2	Element	EM10PI-68	60403-68	
				D/Valve		60042-97	
				Fuel inj.unit		60503-82	
				Feed pump		CD4M3569	990.3569
				Gasket kit			45010-06
				Start solenoid			37098274
				Stop solenoid			-----
PP4M10P1i-	4364	990.4364	D-245.9E2	Element	EM10PI-68	60403-68	
				D/Valve		60042-97	
				Fuel inj.unit		60503-82	
				Feed pump		CD4M3569	990.3569
				Gasket kit			45010-06
				Start solenoid			37098868
				Stop solenoid			-----
PP4M10P1i-	4365	990.4365	D-245.9E2	Element	EM10PI-68	60403-68	
				D/Valve		60042-97	
				Fuel inj.unit		60503-82	
				Feed pump		CD4M3569	990.3569
				Gasket kit			45010-06
				Start solenoid			37098274
				Stop solenoid			37098342
PP4M10U1f-	3440	990.3440	D-245.7	Element	EM10UF-57	60403-57	
				D/Valve		60042-62	
				Fuel inj.unit		60503-59	
				Feed pump		CD3M3554	990.3554
				Gasket kit			45010-02
				Start solenoid			-----
				Stop solenoid			37098342
PP4M10U1f-	4233	990.4233	D-245.9	Element	EM10UF-57	60403-57	
				D/Valve		60042-62	
				Fuel inj.unit		60503-59	
				Feed pump		CD3M3554	990.3554
				Gasket kit			45010-02
				Start solenoid			-----
				Stop solenoid			37098342

Pump type	Motorpal ref.No.	Motorpal Code	Engine Type		Motorpal Ref.	Motorpal Code	
PP6M10P1i-	3535	990.3535	D-260.5E2	Element	EM10PI-71	60403-71	
				D/Valve		60042-97	
				Fuel inj.unit		60503-89	
				Feed pump		CD4M3569	990.3569
				Gasket kit			45010-06
				Start solenoid			37098274
				Stop solenoid			-----
				PP6M10P1i-		3707	9903707
D/Valve	60042-97						
Fuel inj.unit	60503-89						
Feed pump	CD4M3569	990.3569					
Gasket kit		45010-06					
Start solenoid		37098274					
Stop solenoid		-----					
PP6M10P1i-	4325	990.4325	D-260.12E2		Element		
				D/Valve	60042-97		
				Fuel inj.unit	60503-89		
				Feed pump	CD4M3569	990.3569	
				Gasket kit		45010-06	
				Start solenoid		37098868	
				Stop solenoid		-----	
				PP6M10P1i-	4341	990.4341	D-260.4C2
D/Valve	60042-97						
Fuel inj.unit	60503-89						
Feed pump	CD4M3569	990.3569					
Gasket kit		45010-06					
Start solenoid		37098868					
Stop solenoid		37098341					
PP6M10U1f-	3489	990.3489	D-260.5				
				D/Valve	60042-62		
				Fuel inj.unit	60503-60		
				Feed pump	CD3M3554	990.3554	
				Gasket kit		45010-02	
				Start solenoid		-----	
				Stop solenoid		-----	



## MOTORPAL FUEL INJECTION UNITS FOR MMZ USED ON MAZ

60503-44	Composed of element 60403-37 + d/valve 60042-62 + other components
60503-59	Composed of element 60403-57 + d/valve 60042-62 + other components
60503-60	Composed of element 60403-57 + d/valve 60042-62 + other components
60503-82	Composed of element 60403-68 + d/valve 60042-97 + other components
60503-89	Composed of element 60403-71 + d/valve 60042-97 + other components

## MOTORPAL INJECTORS AND NOZZLES FOR MMZ USED ON MAZ

VA70P360-2994	990.2994	DOP140P529-3824	68038-24
VA70P360-2995	990.2995	DOP140P533-3825	68038-25
VA70P360-2996	990.2996	DOP140P528-3826	68038-26
VA70P360-2997	990.2997	DOP122P533-3827	68038-27

**MOTORPAL MATERIALS FITTED ON ŠKODA DIESEL PRAHA AND ČKD HOROVICE - ČKD HRADEC KRÁLOVÉ**

Motorpal Ref.	Other Ref.	Application
DO140T630		ČKD HRADEC KRÁLOVÉ
DO140T730		ČKD HRADEC KRÁLOVÉ
DO140T735-4501		ČKD HRADEC KRÁLOVÉ
DO140T835-4507		ČKD HRADEC KRÁLOVÉ
DO140U650-4609		ČKD HRADEC KRÁLOVÉ
DO140U745		ČKD HRADEC KRÁLOVÉ
DO140U935-6202		ŠKODA DIESEL PRAHA
DO140U955-4606		ČKD HRADEC KRÁLOVÉ
DO150S720		ČKD HOROVICE
DO150S825	DL150S894	ČKD HOROVICE
DO150T935-4509		ŠKODA DIESEL PRAHA
DO150T935-4515		ŠKODA DIESEL PRAHA
DO150U842-4603		ČKD HRADEC KRÁLOVÉ ŠKODA DIESEL PRAHA
DO150U845		ŠKODA DIESEL PRAHA
DOH150V965		ČKD HRADEC KRÁLOVÉ
DOH150V970		ČKD HRADEC KRÁLOVÉ

## MOTORPAL INJECTION PUMPS FOR TATRA

Pump Type	Motorpal Ref.No.	Motorpal Code	Tatra Ref.	Motorpal Ref.	Motorpal Code	Tatra Ref.
PV4A8P210g-	1760	990.1760	Element	EA8Pg-35	60400-35	
			Element	EA8PI-39	60400-39	
			D/Valve		60041-06	
PV4A8P210g-	1761	990.1761	Element	EA8Pg-35	60400-35	
			Element	EA8PI-39	60400-39	
			D/Valve		60041-06	
PV4A8P210g-	1762	990.1762	Element	EA8Pg-35	60400-35	
			Element	EA8PI-39	60400-39	
			D/Valve		60041-06	
PV4A9P210g-	1763	990.1763	Element	EA9PI-40	60400-40	
			D/Valve		60041-06	
PV8A9K915i-	1544	990.1544	Element	EA9K	60401-06	
			D/Valve		60041-06	
			Feed pump	CD3A-2235	990.2235	
			Feed pump	CR1-2266	990.2266	
PV8A9P10g-	1535	990.1535	Element	EA9Pi-40	60400-40	
			D/Valve		60041-06	
PV8A9P10g-	1536	990.1536	Element	EA9Pi-40	60400-40	
			D/Valve		60041-06	
PV8A9P10g-	1537	990.1537	Element	EA9Pi-40	60400-40	
			D/Valve		60041-06	
PV8A9P10g-	1538	990.1538	Element	EA9Pi-40	60400-40	
			D/Valve		60041-06	
PV8A9P10g-	1539	990.1539	Element	EA9Pi-40	60400-40	
			D/Valve		60041-06	
PV8A9P10g-	1541	990.1541	Element	EA9Pi-40	60400-40	
			D/Valve		60041-06	
PV8A9P10g-	1548	990.1548	Element	EA9Pi-40	60400-40	
			D/Valve		60041-06	
PV8A9P915j-	1483	990.1483	Element	EA9PJ	60400-43	
			D/Valve		60043-16	
			Feed pump	CD6A-2281	990.2281	
PV8A9P915j-	1484	990.1484	Element	EA9PJ	60400-43	
			D/Valve		60043-16	
			Feed pump	CD6A-2281	990.2281	
PV8A9S917j-	1492	990.1492	Element	EA9S	60402-02	
			D/Valve		60043-17	
			Feed pump	CD6A-2281	990.2281	
PV10A9K917i-	1549	990.1549	Element	EA9K-07	60401-07	
			D/Valve		60041-06	
			Feed pump	CD6A-2281	990.2281	
			Feed pump	CR1-2266	990.2266	

## MOTORPAL INJECTION PUMPS FOR TATRA

Pump Type	Motorpal Ref.No.	Motorpal Code	Tatra Ref.	Motorpal Ref.	Motorpal Code	Tatra Ref.	
PV10A9S917j-	1489	990.1489	Element	EA9S	60402-02		
			D/Valve			60043-17	
PV10A9S917j-	1493	990.1493	Feed pump	CD6A-2281	990.2281		
			Element	EA9S	60402-02		
			D/Valve			60043-17	
PV10A9S917i-	1494	990.1494	Feed pump	CD6A-2281	990.2281		
			Element	EA9S	60402-02		
			D/Valve			60041-06	
			Feed pump	CD6A-2281	990.2281		
PV12A9K917i-	1591	990.1591	Feed pump	CR1-2266	990.2266		
			Element	EA9S	60402-02		
			D/Valve			60041-06	
			Feed pump	CD6A-2281	990.2281		
PV12A9K917i-	1593	990.1593	Element	EA9K	60401-06		
			D/Valve			60041-06	
			Feed pump	CD6A-2281	990.2281		
PV12A9S917i-	1597	990.1597	Element	EA9S	60402-02		
			D/Valve			60041-06	
			Feed pump	CD6A-2281	990.2281		
			Feed pump	CR1-2266	990.2266		
PV12A9S917i-	1598	990.1598	Element	EA9S	60402-02		
			D/Valve			60041-06	
			Feed pump	CD6A-2281	990.2281		
			Feed pump	CR1-2266	990.2266		
PV12A9S917j-	3400	990.3400	Element	EA9S	60402-02		
			D/Valve			60043-17	
			Feed pump	CD6A-2281	990.2281		
PV12A9S917j-	3401	990.3401	Element	EA9S	60402-02		
			D/Valve			60043-17	
			Feed pump	CD6A-2281	990.2281		

## MOTORPAL FEED PUMPS FOR TATRA

CD12Z-2226	990.2226
CD3A-2235	990.2235
CD6A-2281	990.2281
CR1-2261	990.2261
CR1-2265	990.2265
CR1-2266	990.2266

**MOTORPAL INJECTORS AND NOZZLES FOR TATRA**

VA51P490-2980	Nozzle	DLLA140P1098
VA51P490-2987	Nozzle	DLLA140P1098
VA51P490-2982	Nozzle	DLLA145P1182
VA51P490-2986	Nozzle	DLLA145P1182
VA52P490-2993	Nozzle	DLLA145P1715
VA51S443a-2686	Nozzle	DOP132S440-1409
VA51S453a-2689	Nozzle	DOP134S345-4103
VA51S453a-2688	Nozzle	DOP134S440-4102
VA51S490-2700	Nozzle	DOP134S440-4102
VA51S443a-2680	Nozzle	DOP140S345-4368
VA51S443a-2687	Nozzle	DOP140S345-4368
VA53S463a-2605	Nozzle	DOP140S435-39
VA51S443a-2681	Nozzle	DOP140S435-4369
VA53S463a-2641	Nozzle	DOP140S435-83
VA53S463a-2644	Nozzle	DOP140S530-79
VA51S490-2672	Nozzle	DOP140S624-4118
VA51S490-3012	Nozzle	DOP140S625-4152
VA51S490-3010	Nozzle	DOP140S627-4113

**MOTORPAL ADVANCE DEVICES FOR TATRA**

AM4A5P-1337
AM4A5P-1338
AM4A5P-1339
AM4A5P-1340