TECHNICAL DATA STARTER AND ALTERNATOR

BOSCH

Starter motors for 12 V electrical systems

Technical data		R78-M55 12 V	HX87-M 12 V	HX95-M 12 V	HXF95-M 12 V	HX95-L 12 V	HXF95-L 12 V
Weight	[kg]	4,1	7,5	8,5	9	9	10
Stator housing	(D1) [mm]	78	87	95	95	95	95
Length	(L) [mm]	189	238	254	297	263	306
Performance (at T = -20 °C)	[kW]	2,5	3,2	3,6	3,6	4,2	4,2 (4,7)*
Solenoid Type		305	402	402	402	402	402
D_{Relais}	(D2) [mm]	52,5	62	62	62	62	62
Exactation winding		6-polig	4-polig	4-polig	4-polig	4-polig	4-polig
Armature	D_A [mm]	59	56,5	60	60	60	60
	L_A [mm]	36	43	46	46	54	54
Max. battery (DIN)	[Ah/A]	143/570	176/790	176/790	176/790	220/900	220/900 (286/1 140)*
Diesel-engine displacement	[l]	≤ 3,0	≤ 6,0	≤ 7,5	≤ 7,5	≤ 9,0	≤ 9,0

*depending on application

© Robert Bosch GmbH 2018. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

BOSCH

Starter motors for 24 V electrical systems

Technical data		HX87-M 24 V	HX95-M 24 V	HXF95-M 24 V	HXF95-L 24 V	HEF109-M 24 V	HEF109-MP 24 V	HEF109-L 24 V
Weight	[kg]	7,5	8,5	9	10	11,6	14	14,0 – 17,0
Stator housing	(D1) [mm]	87	95	95	95	109	109	109
Length	(L) [mm]	238	254	297	306	320	320	355
Performance (at T = -20 °C)	[kW]	4,5	5	5	6,0 (6,5)*	7,8	8,4	9,2
Solenoid Type		402	402	402	402	402	402	402
	D_{Relais} (D2) [mm]	62	62	62	62	62	62	62
Exactation winding		4-polig	4-polig	4-polig	4-polig	6-polig	6-polig	6-polig
Armature	D_A [mm]	56,5	60	60	60	75	75	75
	L_A [mm]	43	46	46	54	50	50	80
Max. battery (DIN)	[Ah/A]	110/450	110/450	110/450	143/570 (215/700)*	176/790	220/900	220/900
Drive end shield		Aluminium-Guss	Aluminium-Guss	Aluminium-Guss	Aluminium-Guss	Aluminium-Guss	Sphäroguss	Sphäroguss
Diesel-engine displacement	[l]	≤ 7,5	≤ 9,0	≤ 9,0	≤ 13,0	≤ 16,0	≤ 24,0	≤ 28,0

*depending on application

© Robert Bosch GmbH 2018. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

BOSCH

HEP109-parallel starting system

Technical data		2 x HEP109-MP 24 V	3 x HEP109-MP 24 V	2 x HEP109-L 24 V	3 x HEP109-L 24 V
Weight	[kg]	2 x 16,5	3 x 16,5	2 x 19,5	3 x 19,5
Stator housing	(D1) [mm]	109	109	109	109
Length	(L) [mm]	320	320	355	355
Performance (at T = -20 °C)	[kW]	16,8	25,2	18,4	27,6
Solenoid Type		402	402	402	402
	D_{Relais} (D2) [mm]	62	62	62	62
Exactation winding		6-polig	6-polig	6-polig	6-polig
Armature	D_A [mm]	75	75	75	75
	L_A [mm]	50	50	80	80
Max. battery (DIN)	[Ah/A]	2 x 220/900	3 x 220/900	2 x 220/900	3 x 220/900
Drive end shield		Sphäroguss	Sphäroguss	Sphäroguss	Sphäroguss
Displacement of diesel / gasoline engine	[l]	≤ 48/≤ 96	≤ 72/≤ 144	≤ 56/≤ 112	≤ 84/≤ 168

© Robert Bosch GmbH 2018. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

Efficiency: improved efficiency

Technical data			HD 4E 14 V	HD 8E 14 V	HD 10E 14 V	HD 10E 28 V
Weight**		[kg]	5,6	6,6	7,8	7,7
Length**	(L)	[mm]	136	142	142	142
Rotor diameter		[mm]	93,4	103,3	111,3	111,3
Diameter	(Dm)	[mm]	136	147	156	156
Power	1,800 rpm	[A]	50	80	93	42
	6,000 rpm	[A]	110	153	202	135
Mass inertia moment**		[kg cm2]	20	32	46	46
Weighted efficiency		in %	66	72	73	75

**without belt pulley

© Robert Bosch GmbH 2018. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

Power: efficient for high power requirements

Technical data			HD 10LPB 14 V	HD 10LPB 28 V
Weight**		[kg]	8,4	8,4
Length**	(L)	[mm]	151	151
Rotor diameter		[mm]	111,3	111,3
Diameter	(Dm)	[mm]	156	156
Power	1,800 rpm	[A]	65	30
	6,000 rpm	[A]	240	150
Mass inertia moment**		[kg cm2]	47	47
Weighted efficiency		in %	72	77

**without belt pulley

© Robert Bosch GmbH 2018. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

Long-life: particularly sturdy and with a long life

Technical data			HD 8L 14 V	HD 8L 28 V	HD 9L 14 V	HD 9L 28 V	HD 10L 14 V	HD 10L 28 V
Weight**		[kg]	6,6	6,6	7,1	7,1	7,7	7,7
Length**	(L)	[mm]	146	146	146	146	146	146
Rotor diameter		[mm]	103,3	103,3	111,3	111,3	111,3	111,3
Diameter	(Dm)	[mm]	147	147	153	153	156	156
Power	1,800 rpm	[A]	73	36	87	41	100	42
	6,000 rpm	[A]	129	83	155	110	160	100
Mass inertia moment**		[kg cm2]	32	32	46	46	46	46
Weighted efficiency		in %	65	70	63	70	68	70

**without belt pulley

© Robert Bosch GmbH 2018. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

Temperature: extremely heat-resistant

Technical data			HD 8T 14 V	HD 8T 28 V	HD 9T 14 V	HD 9T 28 V	HD 10T 14 V	HD 10T 28 V
Weight**		[kg]	6,5	6,5	7	7	7,6	7,6
Length**	(L)	[mm]	142	142	142	142	142	142
Rotor diameter		[mm]	103,3	103,3	111,3	111,3	111,3	111,3
Diameter	(Dm)	[mm]	147	147	153	153	156	156
Power	1,800 rpm	[A]	73	36	87	41	100	42
	6,000 rpm	[A]	129	83	155	110	160	100
Mass inertia moment**		[kg cm2]	32	32	46	46	46	46
Weighted efficiency		in %	65	70	63	70	68	70

**without belt pulley

© Robert Bosch GmbH 2018. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

Belt Tension: for extreme belt forces

Technical data			HD 10LEB 14 V	HD 10LEB 28 V
Weight**		[kg]	7,9	7,8
Length**	(L)	[mm]	147	147
Rotor diameter		[mm]	111,3	111,3
Diameter	(Dm)	[mm]	156	156
Power	1,800 rpm	[A]	93	42
	6,000 rpm	[A]	202	135
Mass inertia moment**		[kg cm2]	46	46
Weighted efficiency		in %	73	75

**without belt pulley

© Robert Bosch GmbH 2018. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.

Hot Environment: for new generations of engines (Euro 6)

Technical data			HD 10LEBH 14 V	HD 10LEBH 28 V	HD 10LPBH 28 V
Weight**		[kg]	7,9	7,8	8,4
Length**	(L)	[mm]	147	147	151
Rotor diameter		[mm]	111,3	111,3	111,3
Diameter	(Dm)	[mm]	156	156	156
Power	1,800 rpm	[A]	93	42	30
	6,000 rpm	[A]	202	135	150
Mass inertia moment**		[kg cm2]	46	46	47
Weighted efficiency		in %	73	75	77

**without belt pulley

© Robert Bosch GmbH 2018. All rights reserved, also regarding any disposal, exploitation, reproduction, editing, distribution, as well as in the event of applications for industrial property rights.