

DC MOTORS

PERMANENT MAGNETS
WITH BRUSHES



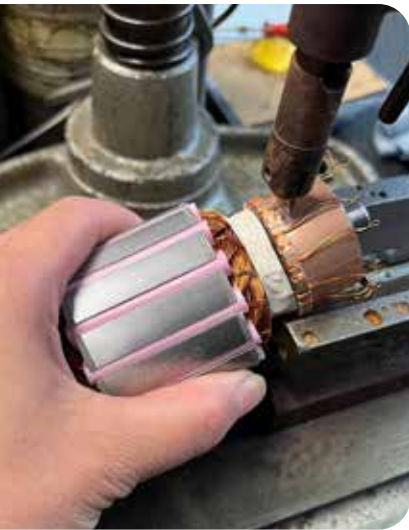


Gearboxes, speed variators and DC permanent magnet motors with brushes

Varmec, in addition to being a historical manufacturer of gearboxes and speed variators, has recently opened a business branch that deals with the **designing** and **manufacturing** of **DC permanent magnet motors with brushes**.

Our team is specialized in manufacturing **special DC motors in small and/or large quantities**.

Varmec aims to completely satisfy its customer needs, even the most demanding ones thanks to the **internal winding department**, to the rapid calculation and motor/gearmotor designing skills, and to our **workshop equipped** with the most advanced machine tools.



PRODUCTION

Our range is divided into sizes related to **tube diameters** and a further subdivision based on motor **length** which defines the type.

The series are: MB, MQ, MBV, MQV

The **power range goes from 20W to 1500W** with options of duty services based depending upon the application.

Motors are available with protection grades starting **from IP20 up to IP65** and **tension from 12V to 170V dc**, although other voltages are available, depending upon the requirement.

Customized units can be developed upon request.

Options include power to release or power to engage **brakes, encoders, tacho generators** as well as standard and special **gearboxes**.

All our motors are **protected against corrosion** and, if required, can be supplied **painted, tropicalized, anodized** and with **thermal protection**.

SERIES

MB

Two-pole motors with external replaceable brushes. With a smooth finish, they are not ventilated and cooling occurs by natural convection through the motor surface.

SIZES
MB40 – MB56 – MB71 -M80

POWER SUPPLY
Cable, terminal box, connector, faston

SERIES
DN

DN TACHO GENERATORS
available in 10V and 20V at 1000 min⁻¹

SERIES

MQ

Four-pole motors with **higher power**, used with voltages from 12 to 48V dc. These include all the specifications of the MB motor series.

POWER SUPPLY
Terminal box

SERIES

MBV-MQV

Fan-cooled motors with finned exterior. They have the same features as of the MB and MQ motors including the degree of protection and have the advantage of improving performance during S1 duty.

SIZES
MB40 – MB56 – MB71 -M80

POWER SUPPLY
Terminal box

SERIES

MRW

Compact gearmotors produced in-house, silent and highly efficient. They are **lifetime lubricated** and available with **4 standard ratios**. Motors are of the MB series.

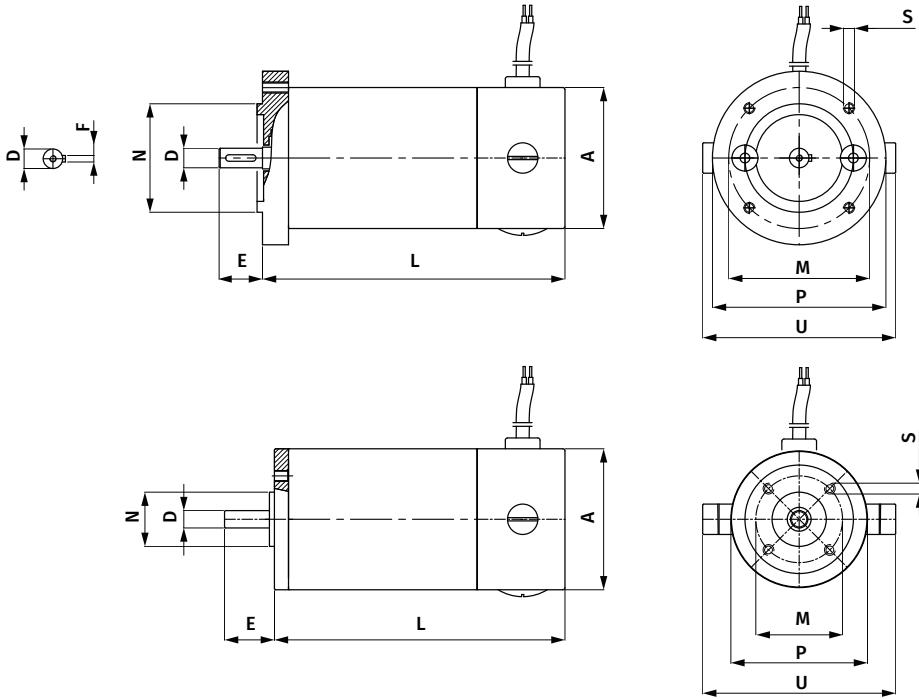
POWER SUPPLY
Cable, faston

DRIVES
We can offer many controlled system drives

SERIES MB40

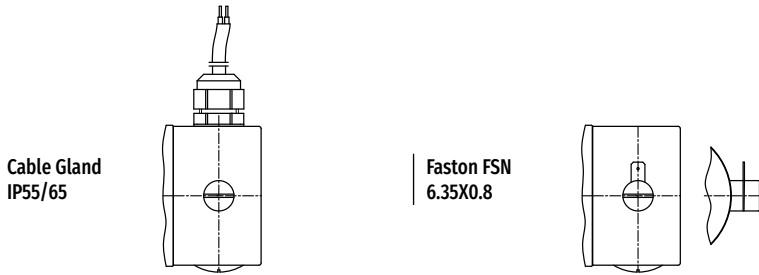
IEC 56B14

SPECIAL DESIGN



OPTIONAL

POWER CONNECTION



MB40

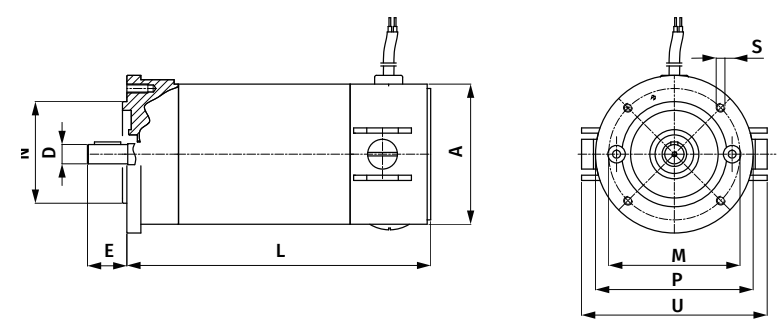
TECHNICAL DATA

TYPE	V	1000 min ⁻¹ W	A	1500 min ⁻¹ W	A	2000 min ⁻¹ W	A	2400 min ⁻¹ W	A	3000 min ⁻¹ W	A	TORQUE Nm	S2 min	WEIGHT kg
035	12	20	2	30	3	40	4	50	5	60	6	0.20	30	1.10
	24	20	1	30	1.5	40	2	50	2.5	60	3			
	48	20	0.5	30	0.75	40	1	50	1.25	60	1.5			
	90	20	0.27	30	0.4	40	0.53	50	0.67	60	0.8			
	170	-	-	-	-	40	0.28	50	0.35	60	0.42			
065	12	40	4.2	60	6.3	80	8.5	-	-	-	-	0.40	30	2.00
	24	40	2.1	60	3.1	80	4.2	100	5.3	120	6.4			
	48	40	1	60	1.5	80	2.1	100	2.6	120	3.2			
	90	40	0.56	60	0.84	80	1.13	100	1.4	120	1.7			
	170	-	-	60	0.44	80	0.59	100	0.74	120	0.89			

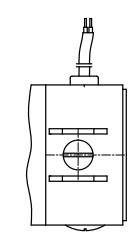
IEC56B14													SPECIAL DESIGN										
DIMENSIONS	TYPE	L	A	U	D	E	F	DH	P	N	M	S	L	A	U	D	E	F	DH	P	N	M	S
	035	110	65	89	9	20	3	M3*	80	50	65	M5	104	65	89	8	23	3	-	65	25	40	M5
	065	140	65	89	9	20	3	M3*	80	50	65	M5	134	65	89	8	23	3	-	65	25	40	M5

* Optional

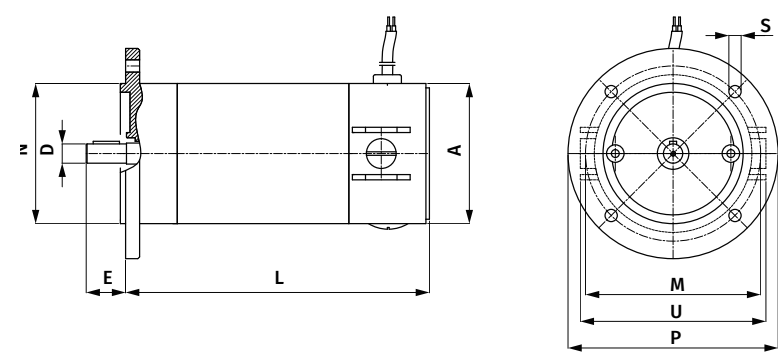
IEC B14



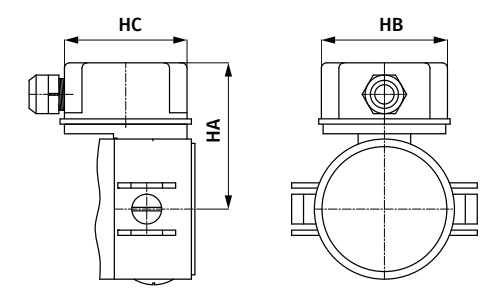
Standard Power
Connection with cable
length 600mm



IEC B5

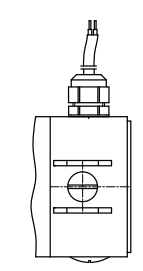
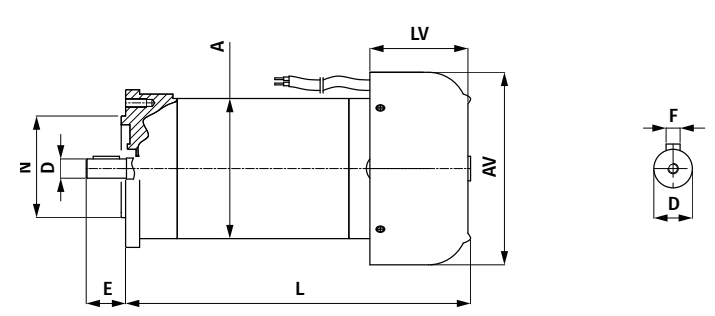


OPTIONAL
POWER CONNECTION

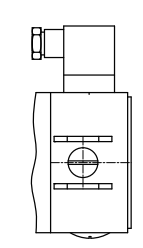


Terminal box whit cable gland

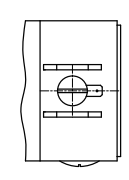
FAN COOLED DESIGN



Cable gland
IP55/65



Connector MPT
max 10A



Faston
6.35x0.8

MB56

TECHNICAL DATA

TYPE	V	1500 min ⁻¹		2000 min ⁻¹		2400 min ⁻¹		3000 min ⁻¹		TORQUE Nm	S2 min	WEIGHT kg
		W	A	W	A	W	A	W	A			
040	12	50	5.5	67	7.3	80	8.8	100	11	0.33	25	2.00
	24	50	2.7	67	3.6	80	4.4	100	5.5			
	48	50	1.4	67	1.8	80	2.2	100	2.7			
	90	50	0.73	67	0.97	80	1.16	100	1.45			
	170	50	0.39	67	0.5	80	0.62	100	0.77			
050	12	70	7.5	95	10	110	11.7	140	15	0.46	25	2.30
	24	70	3.5	95	4.8	110	6	140	8			
	48	70	1.8	95	2.4	110	3	140	4			
	90	70	1	95	1.4	110	1.6	140	2			
	170	70	0.55	95	0.75	110	0.9	140	1.1			
062	12	100	10.7	135	14.4	160	17	200	21.4	0.65	25	2.70
	24	100	5.4	135	7.2	160	8.5	200	10.7			
	48	100	2.7	135	3.6	160	4.3	200	5.4			
	90	100	1.4	135	1.9	160	2.3	200	2.9			
	170	100	0.75	135	1	160	1.2	200	1.5			
075	12	125	13.5	165	18	200	21.5	250	27	0.82	25	3.10
	24	125	6.7	165	9	200	10.8	250	13.5			
	48	125	3.4	165	4.5	200	5.4	250	6.7			
	90	125	1.8	165	2.4	200	2.9	250	3.6			
	170	125	0.95	165	1.3	200	1.5	250	1.9			
095	12	150	16	200	21.4	240	25.6	300	32	0.98	25	3.70
	24	150	8	200	10.7	240	12.8	300	16			
	48	150	4	200	5.3	240	6.4	300	8			
	90	150	2.1	200	2.8	240	3.4	300	4.3			
	170	150	1.1	200	1.5	240	1.8	300	2.4			
140	12	200	21.5	265	28.4	-	-	-	-	1.30	25	4.80
	24	200	10.7	265	14.2	320	17.2	400	21.5			
	48	200	5.4	265	7.1	320	8.5	400	10.7			
	90	200	2.9	265	3.8	320	4.6	400	5.7			
	170	200	1.5	265	2	320	2.4	400	3			

IEC DESIGNS

FANCOOLED DES. TERMINAL BOX

DIMENSIONS

TYPE	L	A	U													L	AV	LV	HA	HC	HB
040	139	80	106					P	N	M	S					162	110	56	84	70	72
050	149	80	106					IEC 56B14				IEC 56B5				172	110	56	84	70	72
062	161	80	106	9	18	3	M3	80	50	65	M5	120	80	100	7	184	110	56	84	70	72
075	174	80	106					IEC 63B14				IEC 63B5				197	110	56	84	70	72
095	194	80	106	11	23	4	M4	90	60	75	M5	140	95	115	9	217	110	56	84	70	72
140	249	80	106													262	110	56	84	70	72

Type 040, 050, 062, 075 standard IEC 56B14/B5
Type 095, 140 standard IEC 63B14/B5

SERIES

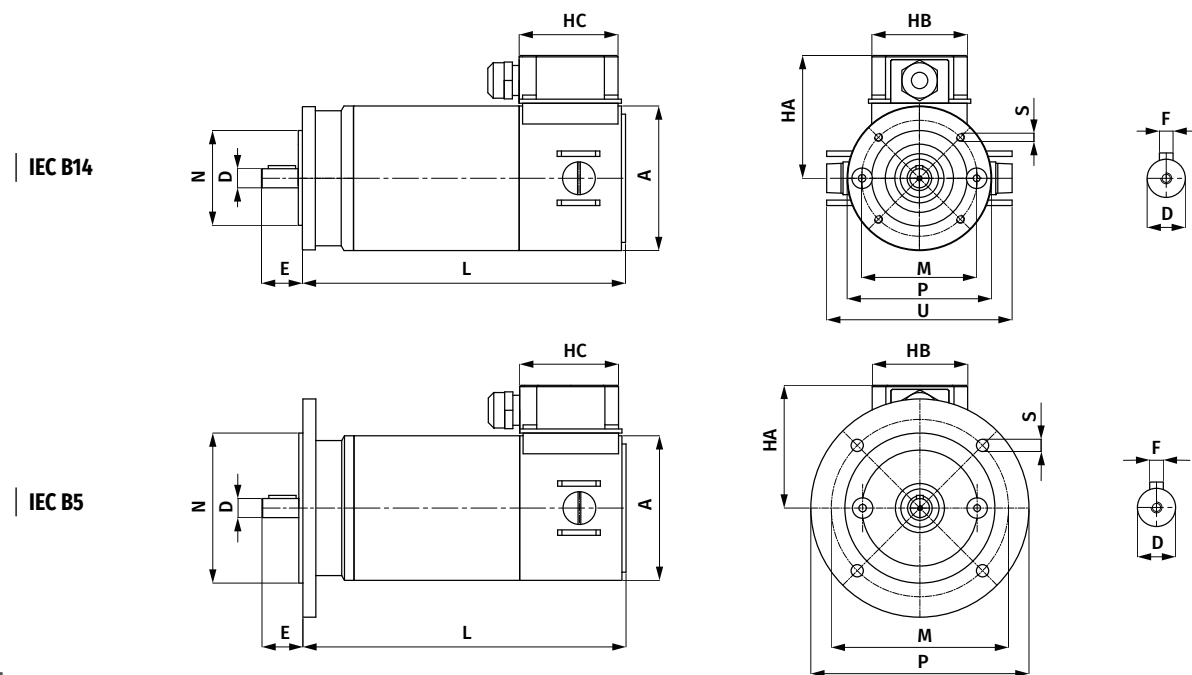
MB71

SERIES

MB80

SERIES

MQ80



MB71

TECHNICAL DATA												
TYPE	V	1500 min ⁻¹		2000 min ⁻¹		2400 min ⁻¹		3000 min ⁻¹		TORQUE	S2	WEIGHT
		W	A	W	A	W	A	W	A	Nm	min	kg
050	12	175	18.6	235	25	280	30	350	37	1.14	25	4.50
	24	175	9.3	235	12.5	280	15	350	18.7			
	48	175	4.7	235	6.3	280	7.5	350	9.4			
	90	175	2.5	235	3.3	280	4	350	5			
	170	175	1.3	235	1.8	280	2.1	350	2.8			
103	24	300	16	400	22	-	-	-	-	1.96	25	7.00
	48	300	8	400	11	480	12.8	600	16			
	90	300	4.3	400	5.8	480	6.9	600	8.7			
	170	300	2.3	400	3.1	480	3.7	600	4.6			

IEC DESIGNS

DIMENSIONS	TYPE	L	A	U	HA	HC	HB	D	E	F	DH	P	N	M	S	P	N	M	S	
	050	184	106	136	90	72	71	11	23	4	M4	90	IEC 63B14			M5	140	IEC 63B5		
	103	237											IEC 71B14					IEC 71B5		
								14	30	5	M5	105	70	85	M6	160	110	130	9	

Standard IEC 71B14/B5

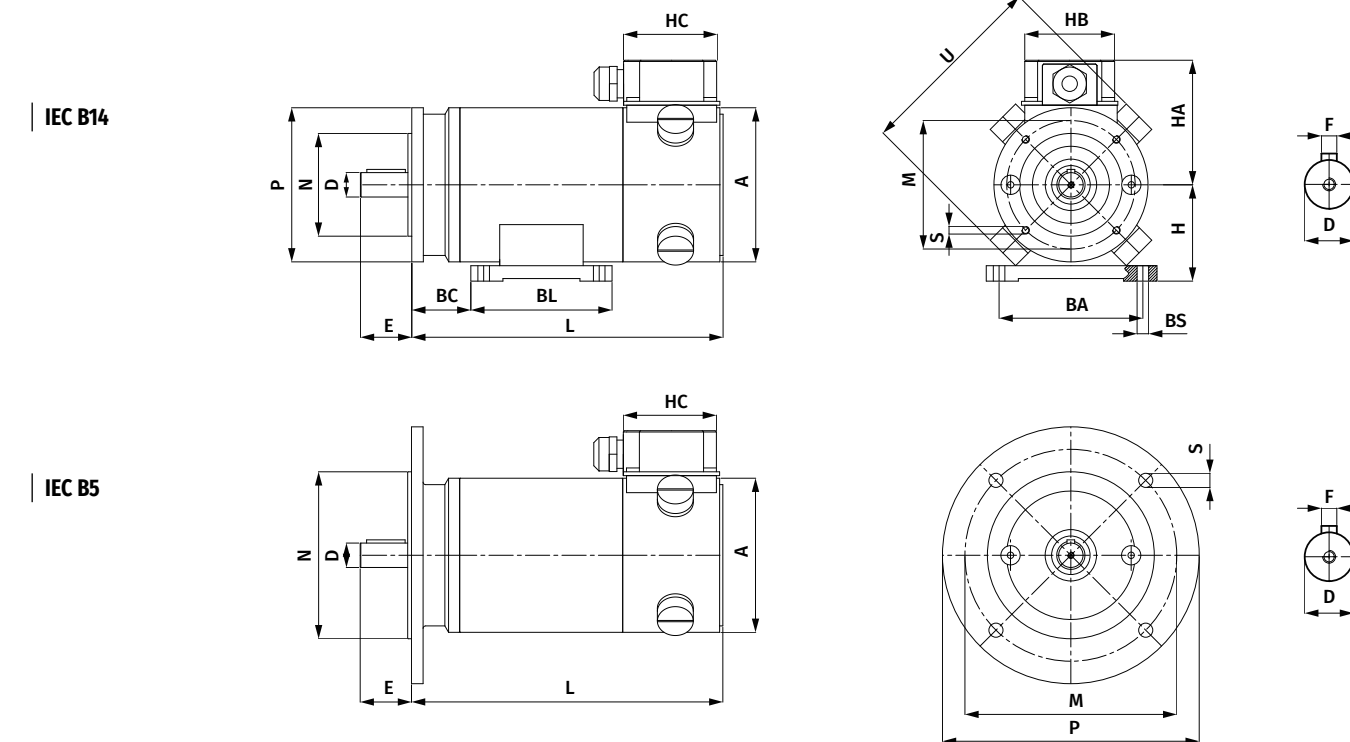
MB80

TECHNICAL DATA												
TYPE	V	1500 min ⁻¹		2000 min ⁻¹		2400 min ⁻¹		3000 min ⁻¹		TORQUE	S2	WEIGHT
		W	A	W	A	W	A	W	A	Nm	min	kg
103	90	450	6.4	600	8.6	720	10.2	900	12.8	2.94	25	10.00
	170	450	3.4	600	4.5	720	5.5	900	6.8			
139	90	600	8.5	800	11.4	960	13.6	1200	17	3.92	25	12.00
	170	600	4.6	800	6	960	7.2	1200	9			
175	90	750	11	1000	14.5	1200	17.3	1500	21.6	4.9	25	14.00
	170	750	5.7	1000	7.7	1200	9.2	1500	11.5			

IEC DESIGNS

DIMENSIONS	TYPE	L	A	U	HA	HC	HB	D	E	F	DH	P	N	M	S	P	N	M	S								
													IEC 80B14					IEC 80B5									
	103	243	120	150	92	70	70	19	40	6	M6	120	80	100	M6	200	130	165	11								
	139	279																		IEC 71B14				IEC 71B5			
	175	315																									
								14	30	5	M5	105	70	85	M6	160	110	130	9								

Standard IEC 80B14/B5



MQ80

TECHNICAL DATA												
TYPE	V	1500 min ⁻¹		2000 min ⁻¹		2400 min ⁻¹		3000 min ⁻¹		TORQUE	S2	WEIGHT
		W	A	W	A	W	A	W	A	Nm	min	kg
067	12	300	32	400	44	480	51.2	600	64	1.96	25	8.00
	24	300	16	400	22	480	25.6	600	32			
	48	300	8	400	11	480	12.8	600	16			
103	12	450	48	600	64	720	76.8	900	96	2.94	25	10.00
	24	450	24	600	32	720	38.4	900	48			
	48	450	12	600	16	720	19.2	900	24			
139	12	600	66	800	86	960	106	1200	132	3.92	25	12.00
	24	600	33	800	43	960	53	1200	66			
	48	600	16.5	800	21.5	960	26.5	1200	33			
175	12	750	82	1000	110	-	-	-	-	4.90	25	14.00
	24	750	41	1000	55	1200	66	1500	82			
	48	750	20.5	1000	27.5	1200	33	1500	41			

IEC DESIGNS

FORM B3

DIMENSIONS	TYPE	L	A	U	HA	HC	HB																	H	BC	BL	BA	BS
								D	E	F	DH	P	N	M	S	P	N	M	S									
	067	207	120	150	97	70	70	IEC 71B14								IEC 71B5				77	38	90	112	9				
	103	243						14	30	5	M5	105	70	85	M6	160	110	130	9		56							
	139	279						IEC 80B14								IEC 80B5					74							
175	315	19						40	6	M6	120	80	100	M6	200	130	165	11	92									

Type 067 standard IEC 71B14/B5

Type 103, 139, 175 standard IEC 80B14/B5

MBV56

TECHNICAL DATA												
TYPE	V	1500 min ⁻¹		2000 min ⁻¹		2400 min ⁻¹		3000 min ⁻¹		TORQUE Nm	DUTY TYPE	WEIGHT kg
		W	A	W	A	W	A	W	A			
050	12	70	7.5	95	10	110	11.7	140	15	0.46	S1	2.70
	24	70	3.5	95	4.8	110	6	140	8			
	48	70	1.8	95	2.4	110	3	140	4			
	90	70	1	95	1.4	110	1.6	140	2			
	170	70	0.55	95	0.75	110	0.9	140	1.1			
062	12	100	10.7	135	14.4	160	17	200	21.4	0.65	S1	3.30
	24	100	5.4	135	7.2	160	8.5	200	10.7			
	48	100	2.7	135	3.6	160	4.3	200	5.4			
	90	100	1.4	135	1.9	160	2.3	200	2.9			
	170	100	0.75	135	1	160	1.2	200	1.5			
095	12	150	16	200	21.4	240	25.6	-	-	0.98	S1	4.70
	24	150	8	200	10.7	240	12.8	300	16			
	48	150	4	200	5.3	240	6.4	300	8			
	90	150	2.1	200	2.8	240	3.4	300	4.3			
	170	150	1.1	200	1.5	240	1.8	300	2.4			
140	12	200	21.5	265	28.4	-	-	-	-	1.3	S1	6.00
	24	200	10.7	265	14.2	320	17.2	400	21.5			
	48	200	5.4	265	7.1	320	8.5	400	10.7			
	90	200	2.9	265	3.8	320	4.6	400	5.7			
	170	200	1.5	265	2	320	2.1	400	3			

MBV71

050	12	175	18.6	235	25	280	30	350	37	1.14	S1	5.5
	24	175	9.3	235	12.5	280	15	350	18.7			
	48	175	4.7	235	6.3	280	7.5	350	9.4			
	90	175	2.5	235	3.3	280	4	350	5			
	170	175	1.3	235	1.8	280	2.1	350	2.8			
103	24	300	16	400	22	-	-	-	-	1.96	S1	9.00
	48	300	8	400	11	480	12.8	600	16			
	90	300	4.3	400	5.8	480	6.9	600	8.7			
	170	300	2.3	400	3.1	480	3.7	600	4.6			

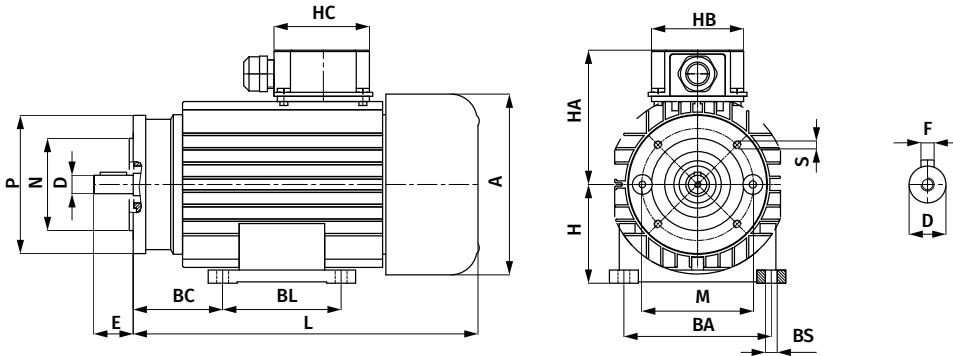
MBV80

103	90	450	6.4	600	8.6	720	10.2	900	12.8	2.94	S1	12.00
	170	450	3.4	600	4.5	720	5.5	900	6.8			
139	90	600	8.5	800	11.4	960	13.6	1200	17	3.92	S1	15.00
	170	600	4.6	800	6	960	7.2	1200	9			

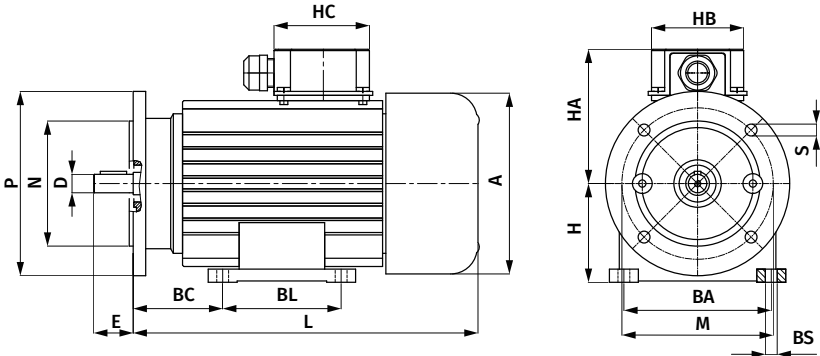
MQV80

067	12	300	32	400	44	480	51.2	600	64	1.96	S1	9.00
	24	300	16	400	22	480	25.6	600	32			
	48	300	8	400	11	480	12.8	600	16			
103	12	450	48	600	64	720	76.8	900	96	2.94	S1	12.00
	24	450	24	600	32	720	38.4	900	48			
	48	450	12	600	16	720	19.2	900	24			
139	12	600	66	800	86	-	-	-	-	3.92	S1	15.00
	24	600	33	800	43	960	53	1200	66			
	48	600	16.5	800	21.5	960	26.5	1200	33			
175	12	750	82	-	-	-	-	-	-	4.9	S1	18.00
	24	750	41	1000	55	1200	66	1500	82			
	48	750	20.5	1000	27.5	1200	33	1500	41			

IEC B14



IEC B5



MBV56

DIMENSIONS	TYPE	L	A	HA	HC	HB	IEC DESIGNS										FORM B3*									
							D	E	F	DH	P	N	M	S	P	N	M	S	H	BC	BL	BA	BS			
	050	171	110	90	72	70						IEC 56B5					IEC 56B14					63	30	80	100	9
	062	183					9 18 3 M3					120 80 100 7					80 50 65 M5						36	80	100	9
	095	216										IEC 63B5					IEC 63B14						52	80	100	9
140	271						11 23 4 M4					140 95 115 9					90 60 75 M5						74	80	100	9

Type 050, 062 standard IEC 56B14/B5 - Type 095, 140 standard IEC 63B14/B5

MBV71

050	209	138	102	72	70					IEC 63B5				IEC 63B14				75	46	90	112	9
	11 23 4 M4					140	95	115	9	90	60	75	M5									
103	262									IEC 71B5				IEC 71B14					68			
	14 30 5 M5				160	110	130	9	105	70	85	M6										

Standard IEC 71B14/B5

MBV80

103	284	155	112	72	70					IEC 71B5				IEC 71B14				90	88	100	125	11
	14 30 5 M5					160	110	130	9	105	70	85	M6									
139	320									IEC 80B5				IEC 80B14								
						19 40 6 M6				200	130	165	11	120	80	100	M6	90	106	100	125	11

Standard IEC 80B14/B5

MQV80

	067	248	155	112	72	70	14	30	5	M5	IEC 71B5				IEC 71B14				90	25	100	125	11
	103	284													105 70 85 M6								
	139	320									IEC 80B5				IEC 80B14								
	175	356									19 40 6 M6				120 80 100 M6								

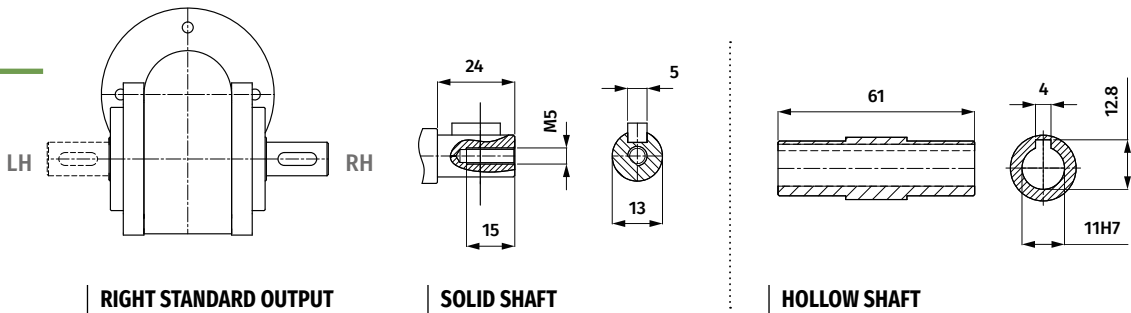
Type 067 standard IEC 71B14/B55 - Type 103, 139, 175 standard IEC 80B14/B5

* B3 form standard supplied with B14

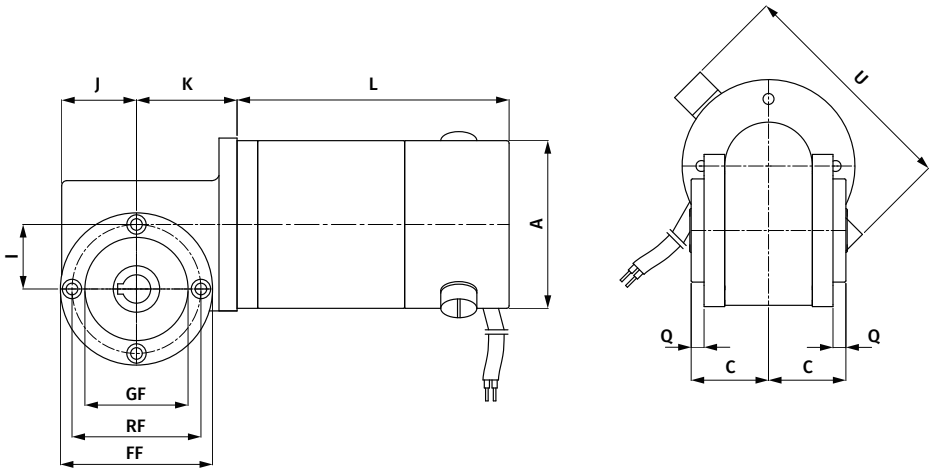
MRW40

TECHNICAL DATA	TYPE	V	i	T ₂ Nm	1000 min ⁻¹			1500 min ⁻¹			2000 min ⁻¹			2500 min ⁻¹			3000 min ⁻¹			WEIGHT kg		
					n ₂ min ⁻¹	W	A	n ₂ min ⁻¹	W	A	n ₂ min ⁻¹	W	A	n ₂ min ⁻¹	W	A	n ₂ min ⁻¹	W	A			
035	12	11.5	1.85	87	20	2.00		131	30	3.00	174	40	4.00	218	50	5.00	261	60	6.00	1.70		
		23	3.16	44				66			88			110			132					
		28	3.68	36				54			72			90			108					
		35	4.24	29				44			58			73			87					
	24	11.5	1.85	87	20	1.00		131	30	1.50	174	40	2.00	218	50	2.50	261	60	3.00			
		23	3.16	44				66			88			110			132					
		28	3.68	36				54			72			90			108					
		35	4.24	29				44			58			73			87					
	48	11.5	1.85	87	20	0.5		131	30	0.75	174	40	1.00	218	50	1.25	261	60	1.50			
		23	3.16	44				66			88			110			132					
		28	3.66	36				54			72			90			108					
		35	4.24	29				44			58			73			87					
	90	11.5	1.85	87	20	0.27		131	30	0.40	174	40	0.53	218	50	0.67	261	60	0.80			
		23	3.16	44				66			88			110			132					
		28	3.68	36				54			72			90			108					
		35	4.24	29				44			58			73			87					
	170	11.5	1.85	-			174	40	0.28	218	50	0.35	261	60	0.42							
		23	3.16				88			110			132									
		28	3.68				72			90			108									
		35	4.24				58			73			87									
065	12	11.5	3.7	87	40	4.20		131	60	6.30	174	80	8.50	-			-			2.60		
		23	6.32	44				66			88											
		28	7.36	36				54			72											
		35	8.48	29				44			58											
	24	11.5	3.7	87	40	2.10		131	60	3.10	174	80	4.20	218	100	5.30	261	120	6.40			
		23	6.32	44				66			88			110			132					
		28	7.36	36				54			72			90			108					
		35	8.48	29				44			58			73			87					
	48	11.5	3.7	87	40	1.00		131	60	1.50	174	80	2.10	218	100	2.60	261	120	3.20			
		23	6.32	44				66			88			110			132					
		28	7.36	36				54			72			90			108					
		35	8.48	29				44			58			73			87					
	90	11.5	3.7	87	40	0.56		131	60	0.84	174	80	1.13	218	100	1.40	261	120	1.70			
		23	6.32	44				66			88			110			132					
		28	7.36	36				54			72			90			108					
		35	8.48	29				44			58			73			87					
	170	11.5	3.7	-			131	60	0.44	174	80	0.59	218	100	0.74	261	120	0.89				
		23	6.32				66			88			110			132						
		28	7.36				54			72			90			108						
		35	8.48				44			58			73			87						

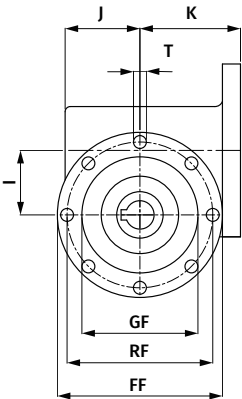
Output Shaft



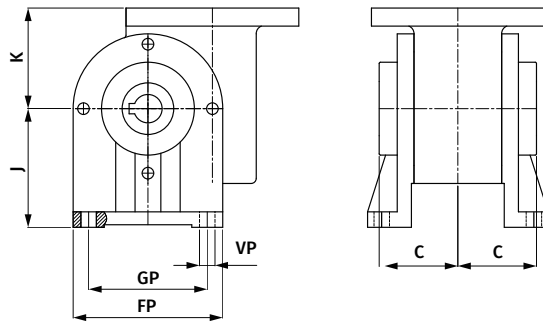
STANDARD FORM



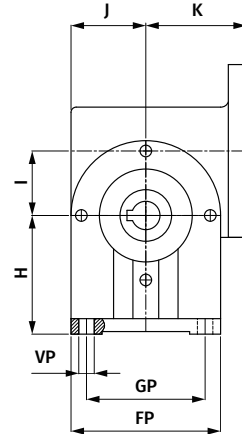
FORM F



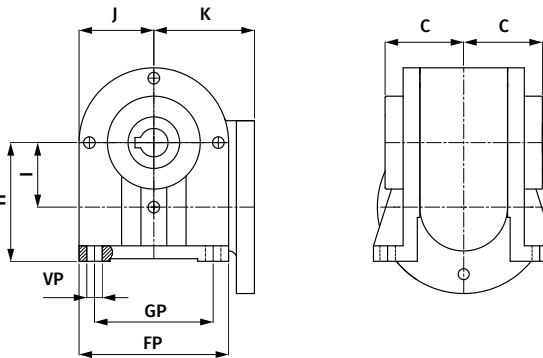
FORM D



FORM P



FORM I



MOTOR MB40

DIMENSIONS	TYPE	L	A	U
	035	106	65	89
	065	136	65	89

GEARBOX

FORMS	H	I	J	K	C	CF	Z	Q	GP	FP	VP	GF	RF	FF	T
STANDARD	-	25	29	39	30	-	-	5	-	-	-	40	50	59	-
P	46	25	29	39	30.5	-	-	-	46	58	6	-	-	-	-
D	46	25	29	39	30.5	-	-	-	46	58	6	-	-	-	-
I	46	25	29	39	30.5	-	-	-	46	58	6	-	-	-	-
F	-	25	29	39	30	54	1.5	-	-	-	-	45	56.5	64	5

VARMEC S.r.l.

Unipersonale soggetta alla direzione
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