

QB/QS QUANTUM brushless servo motors

Data sheet



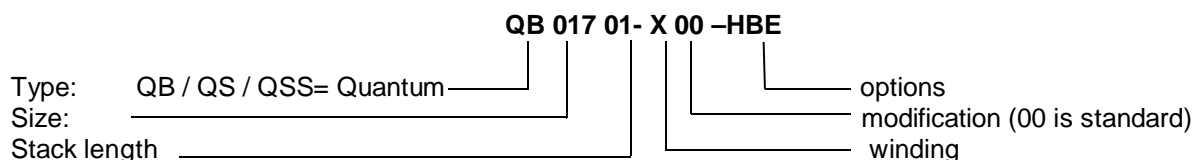
- Available as frameless (kit) and housed version
- 4 sizes with various stack length options
- Continuous torque from 0.08 to 20 Nm
- Windings for 12 Vdc to 400 Vdc; optimized for each application for best performance
- Pole count: 6
- Hall sensors standard
- Electrical connection: flying leads
- Optional thermal protection: PTC, thermal switch 145° C, KTY or NTC
- Modification of mechanical properties like ID or OD possible
- Customization possible.

The QUANTUM motors are synchronous 3-phase brushless servo motors for demanding servo applications with low power requirements at low voltages. The usage as motor kit gives the customer highest flexibility for his mechanical design; housed versions are available if needed.

Although there are standard winding suggestions, normally the winding is designed for the specific requirements of each application to give the optimum performance of the motor. The normal design voltages range from 12 Vdc to 400 Vdc.

For high speed design there are special laminations for less iron losses available. Part numbers are changed to QS or QSS, mechanical properties remain the same.

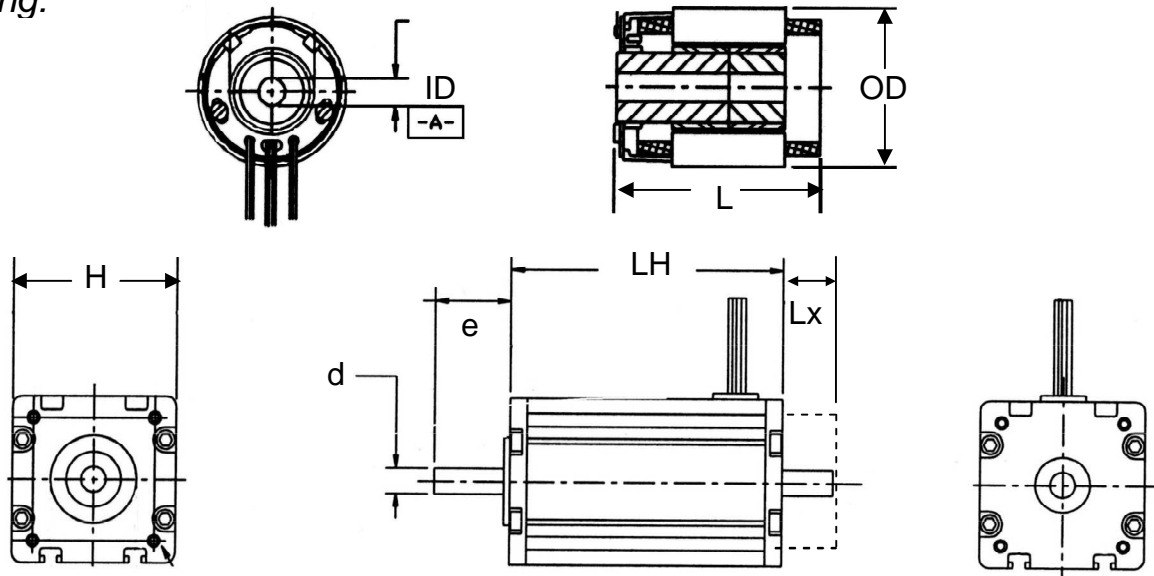
Part number:



Available options:

- **H:** housed
- **E:** with encoder (RS-422, differential,
QB017xx / QB023xx: 200 / 400 / 500 / 1.000 / 1.024 lines per rev.,
QB034xx: 500 / 1.000 / 1.024 / 2.000 / 2.048 lines per rev.)
- **B:** with brake (24 Vdc, QB017xx: 0.56 Nm, QB023xx: 1.12 Nm, QB034xx: 4.51 Nm)
- **R:** with resolver (2-pole, input: 7 Vac r.m.s, 10 kHz, 60 mA, 10.000 rpm max.)
- **C:** motor connector
- **I:** IP rating (IP44 standard)

Drawing:



Model			Frameless				Housed						
	Peak torque	cont. torque	OD	ID / ID max.	L	Weight	H	LH	d	e	Lx encoder / resolver / brake	Weight	
	Nm	Nm	mm	mm	mm	kg	mm ²	mm	mm	mm	mm	mm	kg
QB1700	0,65	0,08	35,8	6,375 / 12,0	34	0,07	41,7	54	6,35	19,05	28 / 21,6 / 22,6	0,22	
QB1701	1,19	0,15			46,7	0,14		66,7					0,34
QB1702	1,87	0,23			59,4	0,21		79,4					0,47
QB1703	2,41	0,3			72,1	0,27		92,1					0,58
QB2300	3,9	0,36	55,4	9,550 / 18,0	42,2	0,25	58,4	71,1	9,52	19,56	28 / 21,1 / 30,1	0,68	
QB2301	7,9	0,68			61,2	0,48		90,1					0,92
QB2302	11,8	0,98			80,3	0,71		109,2					1,17
QB2303	15,6	1,28			99,3	0,95		128,2					1,42
QB3400	5,4	0,81	81,3	12,725 / 32,0	42,2	0,6	86,9	76,5	12,69	30,2	20,3 / 21,1 / 31,0	1,55	
QB3401	10,8	1,57			61,2	1,17		95,5					2,24
QB3402	16,2	2,32			80,3	1,73		114,6					2,92
QB3403	20,9	3,03			99,3	2,29		133,6					3,6
QB5600	30,3	4,29	127	30,0 / 50,8	69,6	1,8	142,2	123	28,57	50,8	t.b.d.	4,8	
QB5601	57,2	8,03			95	4		148,3					7,9
QB5602	85,1	11,1			120,4	5,9		173,7					10,4
QB5603	113	14,1			145,8	7,8		199					13
QB5604	140	17			171,2	9,7		224,5					16
QB5605	166	20			196,6	12		250					21

Cable coding:

Motor		TTL encoder with Line Driver			Resolver (2-pole)	
red	U	red	Pin 1	+5 Vdc	red / white	R1 (Supply +)
white	V	black	Pin 10	Ground	yellow / white	R2 (Supply -)
black	W	green	Pin 4	A	red	S1 (sin+),
Halls		orange	Pin 6	B	black	S3 (sin -)
brown	A	red / black	Pin 3	/A	yellow	S4 (cos+)
orange	B	white / black	Pin 5	/B	blue	S2 (cos -)
yellow	C	white	Pin 7	Index		
blue	+5 Vdc	blue	Pin 9	/Index		
green	Masse					