

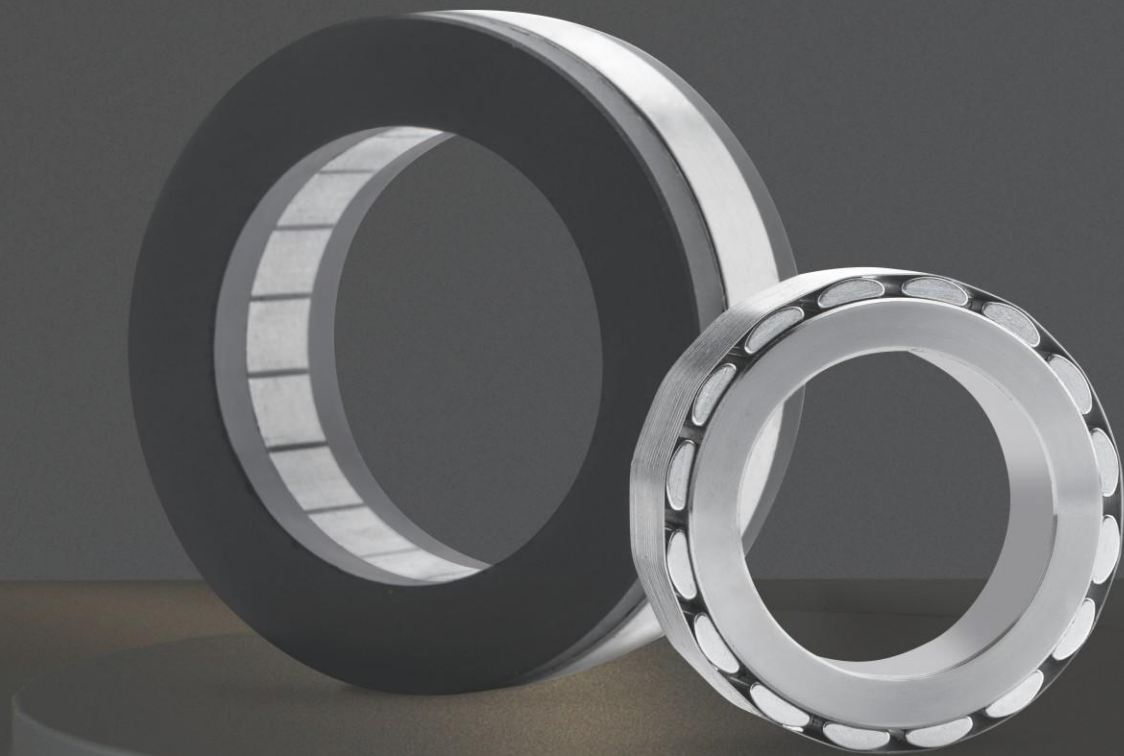
HBM

SERIES

Frameless Torque Motor

Product characteristics

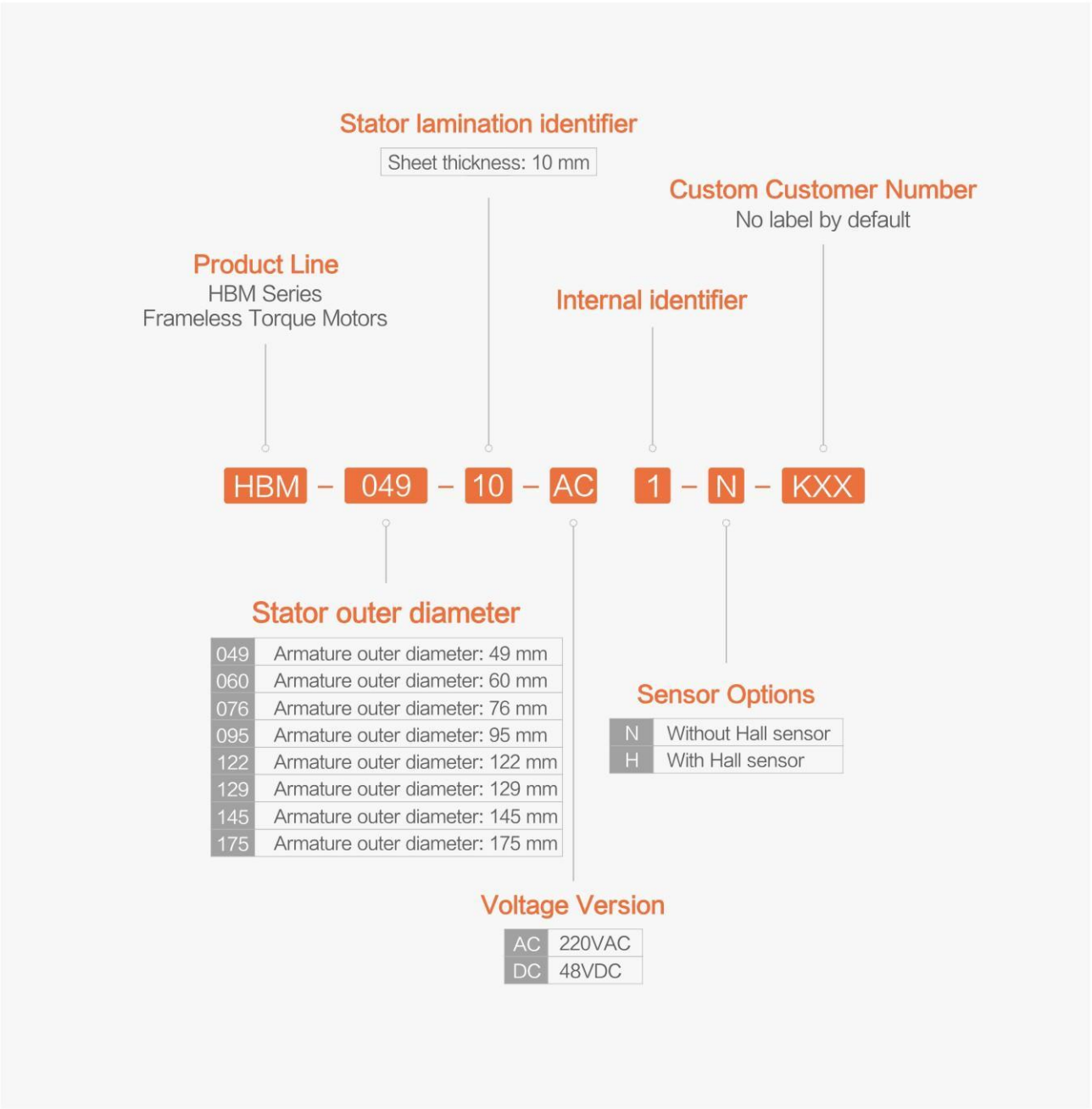
- The HBM series of frameless torque motors primarily consist of a stator and windings, a high-performance neodymium-iron-boron rotor, and Hall sensor circuitry. They offer flexible application options and facilitate the design of reliable and compact systems.
- High torque output and torque density.
- Ultra-low cogging torque with minimal torque ripple even at low speeds, enabling quiet and precise rotational motion.
- A wide range of models is available, covering frame sizes from 49 mm to 175 mm, with voltage specifications of 220 VAC and 48 VDC.
- Built-in Hall sensors provide feedback signal output.
- Class F insulation ensures suitability for high-temperature operation.



Application Area

Our products are widely used in robotics, electronic and semiconductor equipment, 3C devices, precision gimbals, precision CNC machine tools, precision laser processing equipment, optical inspection, logistics equipment, engraving machines, medical devices, printing machinery, and aerospace equipment.

Model definition



FOR A MORE STABLE ROTATING JOINT MODULE,
CHOOSE HOBBER

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HBM SERIES

220VAC

Operating voltage		220VAC							
Model	HBM-	049-10-AC1-N	060-14-AC1-N	076-12-AC1-N	095-14-AC1-N	122-16-AC1-N	129-16-AC1-N	145-20-AC1-N	175-40-AC1-N
Number of phases		3	3	3	3	3	3	3	3
Extreme Numbers		10	16	16	16	16	16	16	20
Peak Speed	rpm	5900	5900	5000	4800	3800	4600	4000	4000
Rated Speed	rpm	4000	3500	3000	2600	2500	2500	2000	2500
Rated Torque	N.m	0.11	0.275	0.66	1.64	2	3.1	6.00	15
Rated Power	W	50	100	210	450	530	800	1256	3930
Rated Current	Arms	1	1	2.3	3.8	4	5.40	9.00	18
Peak Current	Arms	3	3	6.9	11.4	12	16.20	18.00	35
Peak Torque	N.m	0.33	0.825	1.98	4.92	6	9.2	12.00	28.6
Wire Resistance	Ω	12	7.5	6.2	3.55	2.1	0.9	0.8	0.126
Wire Inductance	mH	9.5	11.5	7.7	10	12	6	8.0	0.65
Torque Constant	N.m/A	0.1	0.27	0.28	0.43	0.53	0.56	0.68	0.84
Back-EMF Constant	V/kRPM	10.5	25	25	40	52.5	40.0	44	52
Weight	Kg	0.12	0.27	0.4	0.6	1	1.2	1.9	5.2
Insulation Class		Class B							
Dielectric Strength		500 VDC (1 minute)							
Insulation Resistance		200 M Ω or higher (500 VDC)							

When using this parameter with an all-in-one unit, the current must be limited in accordance with the rated current and peak current specified in the unit's manual.

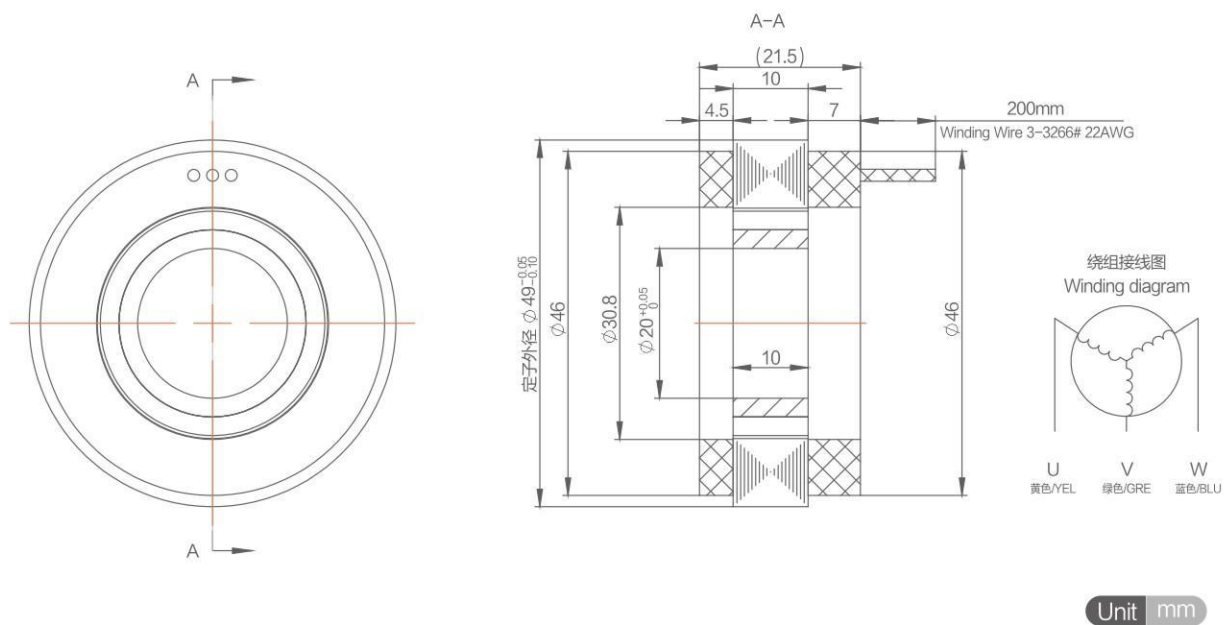
HBM SERIES

48VDC

Operating voltage		48VDC							
Model	HBM-	049-10-DC1-N	060-14-DC1-N	076-12-DC1-N	095-14-DC1-N	122-16-DC1-N	129-16-DC1-N	145-20-DC1-N	175-40-DC1-N
Number of phases		3	3	3	3	3	3	3	3
Extreme Numbers		10	16	16	16	16	16	16	20
Peak Speed	rpm	5400	5000	4400	3500	2800	3000	2600	2500
Rated Speed	rpm	3000	3000	2600	2500	2300	2000	1600	2000
Rated Torque	N.m	0.22	0.64	1	1.6	2.1	3.3	3.41	15
Rated Power	W	70	200	280	450	500	690	600	3140
Rated Current	Arms	2	5.6	8.7	14	16.7	20.0	21	80
Peak Current	Arms	4	11.2	17.4	28	50.1	55.5	42	149
Peak Torque	N.m	0.44	1.28	2	3.2	6.3	9.2	10.23	28.6
Wire Resistance	Ω	2.56	0.85	0.4	0.13	0.2	0.1	0.074	0.008
Wire Inductance	mH	1.8	1	0.9	0.36	0.4	0.4	0.3	0.048
Torque Constant	N.m/A	0.1	0.11	0.11	0.11	0.13	0.16	0.16	0.19
Back-EMF Constant	V/kRPM	9.5	6.5	7.7	10.5	12.57	10.50	15	11.9
Weight	Kg	0.12	0.27	0.4	0.6	1	1.2	1.9	5.3
Insulation Class		Class B							
Dielectric Strength		500 VDC (1 minute)							
Insulation Resistance		200 M Ω or higher (500 VDC)							

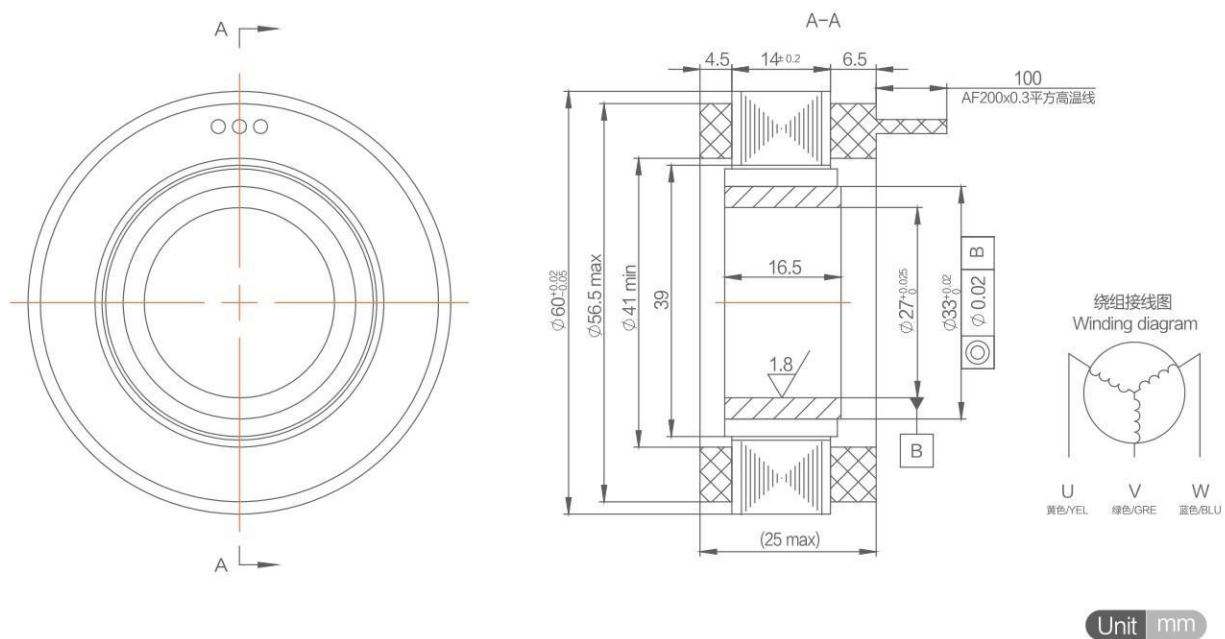
HBM-049-10-AC(DC)1-N

Frameless torque motor



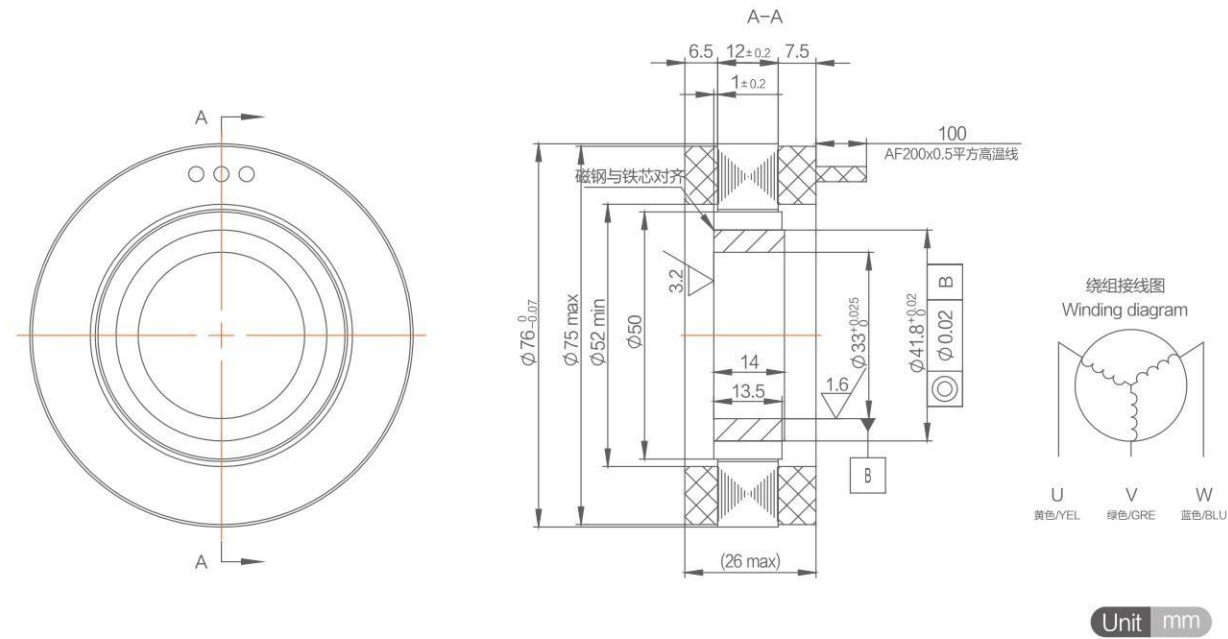
HBM-060-14-AC(DC)1-N

Frameless torque motor



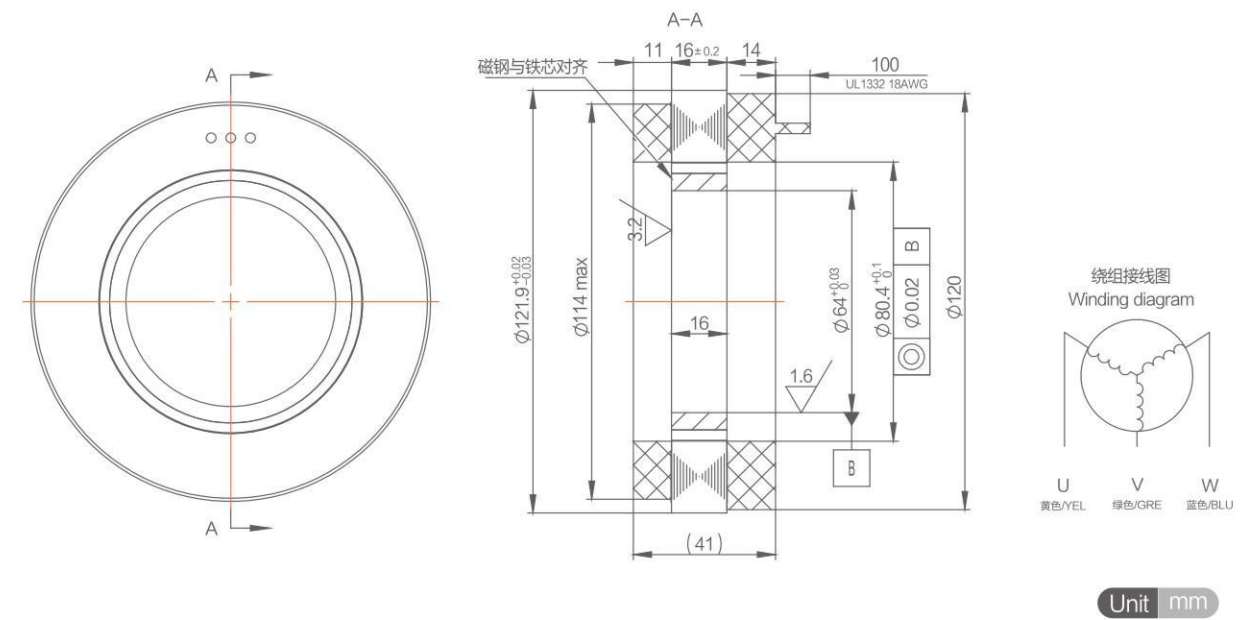
HBM-076-12-AC(DC)1-N

Frameless torque motor



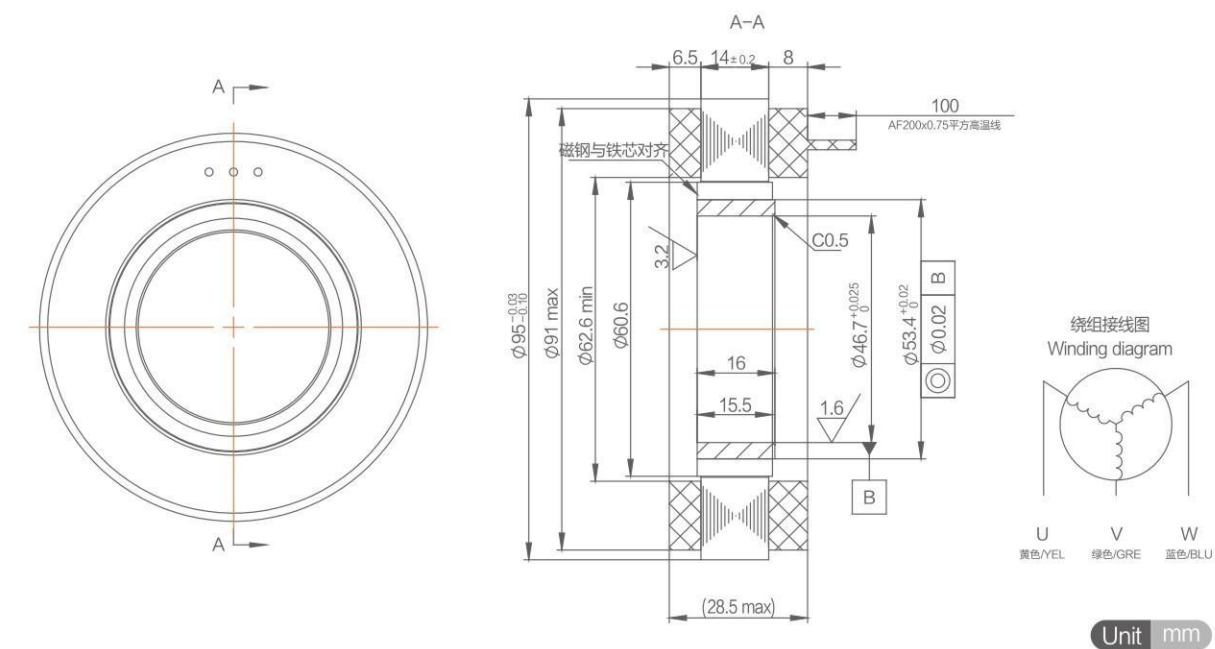
HBM-122-16-AC(DC)1-N

Frameless torque motor



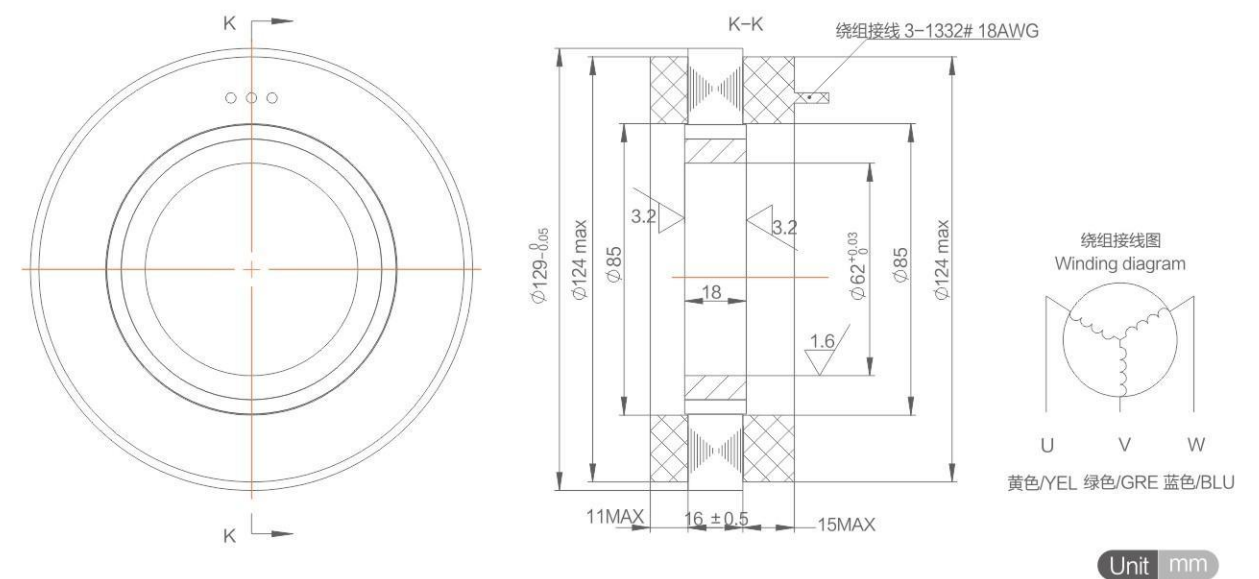
HBM-095-14-AC(DC)1-N

Frameless torque motor



HBM-129-16-AC(DC)1-N

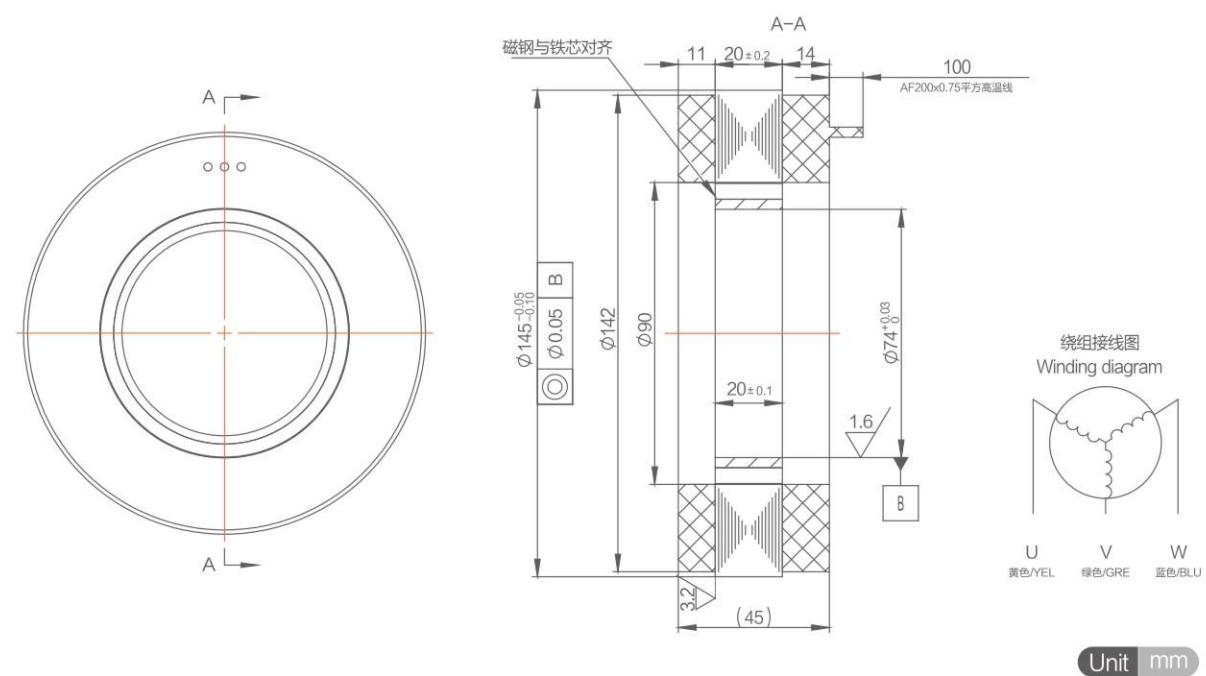
Frameless torque motor



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HBM-145-20-AC(DC)1-N

Frameless torque motor



HBM-175-40-AC(DC)1-N

Frameless torque motor

