DINGS'

Precision Motion Specialist

VOICE COIL MOTOR · ACTUATOR

PRODUCT CATALOG

Jiangsu DINGS' Intelligent Control Technology Co., Ltd.

dingsmotion.com

Founded in 2008, Jiangsu DINGS' Intelligent Control Technology Co., Ltd. is guided by the philosophy, **"Quality stems from responsibility, and details determine success."**

As a global leader in precision linear motion, DINGS' delivers a comprehensive portfolio of precision stepper, DC and BLDC motors, voice coil motors, lead and ball screw linear actuators, PMSM motors for eco-mobility, and advanced motion controllers — setting new benchmarks in the global motion control market.

SCALE

300+	Advanced Machining Equipment	
40+	Automated Assembly Lines	
100+	Precision Testing & Analysis Systems	
140+	Patents & Intellectual Properties	

GROWTH

2008	Company Founded & DINGS' Brand Established
2010	DINGS' Motion USA Established
2016	DINGS' Korea Established
2019	Joined LEILI Group
2021	Changzhou Intelligent Manufacturing Plant Established Listed on China NEEQ Market
2022	Korea R&D Center Established
2023	Listed on Beijing Stock Exchange [Stock Code: 920593] DINGS' Korea Converted to Corporate Entity DINGS' Japan Established
2024	New Headquarters & Plant Established DINGS' Motion Europe Established
2025	Thailand Manufacturing Facility Established
2026	DINGS' Motion Europe Austria Branch Established

CERTIFICATIONS

ISO 9001 — Quality

ISO 14001 — Environmental

ISO 45001 — Health & Safety

ISO 13485 — Medical Device Quality

ISO/IEC 17025 — Laboratory Accreditation

IATF16949 — Automotive Quality

IPMS — Intellectual Property

CE — Safety Standards

RoHS COMPLIANT — Environmental Standards - RoHS

REACH NPS — Environmental Standards - REACH

PRODUCT WARRANTY

Warranty period: 1 year from shipment.

Free repair is provided for defects in materials or workmanship under normal use.

Warranty does not apply to:

- Warranty expiration or damaged/lost nameplates
- Improper installation or operating conditions
- Unauthorized disassembly or modification
- Repairs conducted outside of official service channels
- Force majeure, including natural disasters

DINGS' is committed to quality, reliability, and responsibility

— delivering high-performance motion solutions built on precision engineering.

Content

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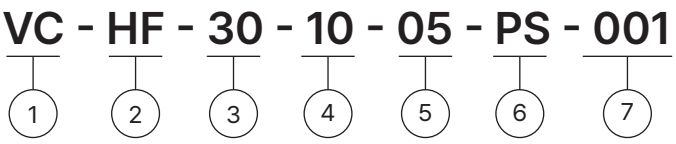
Part number construction



① Motor Type
- VC = Voice Coil Motor
- VCXR = Flat-Type Voice Coil Motor

② Force Version
- None = Standard Series
- HF = High Force Series

③ Frame Size
- 30 = 30mm

④ Stroke
- 10 = 10mm Stroke
- (For custom stroke sizes, please contact DINGS')

⑤ Continuous Force
- 05 = 5N Continuous Force
- (For continuous force, refer to the thrust curve. For custom force requirements, please contact DINGS')

⑥ Position Sensor
- None = Without position sensor
- PS = With position sensor

⑦ Customer Sequence Number
- External dimensions, mounting dimensions, and appearance can be customized as required.

Example

Part Number	VC-30-15-4.63	VCXR-76-20-3.8-001	VC-60-15-40-PS
Description	Voice Coil Motor 30 mm Frame Size 15 mm Stroke 4.63 N Continuous Force	Flat-Type Voice Coil Motor 76 mm Frame Size 20 mm Stroke 3.8 N Continuous Force	Voice Coil Motor 60mm Frame Size 15mm Stroke 40N Continuous Force Position Sensor : Incremental Encoder

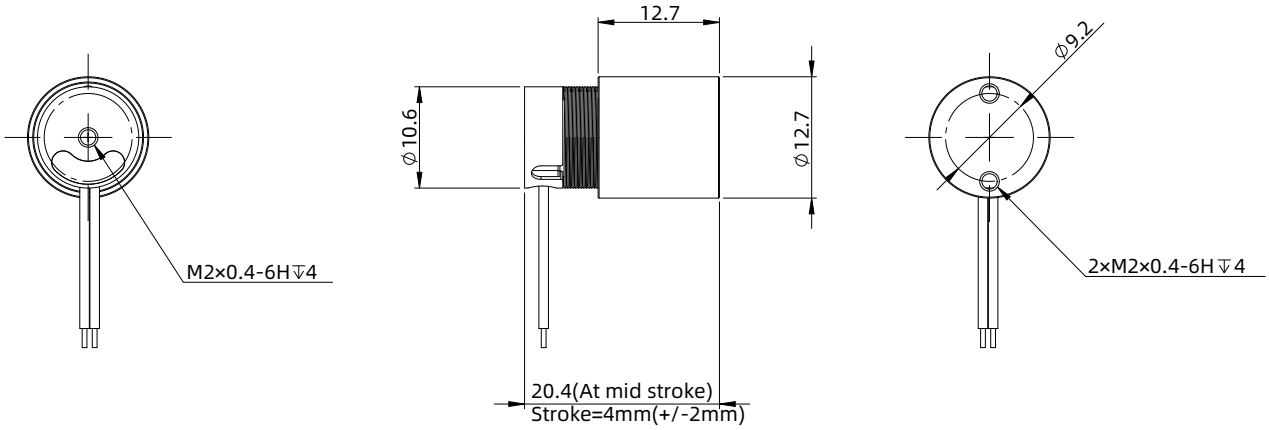
12.7mm Voice coil motor

Standard type

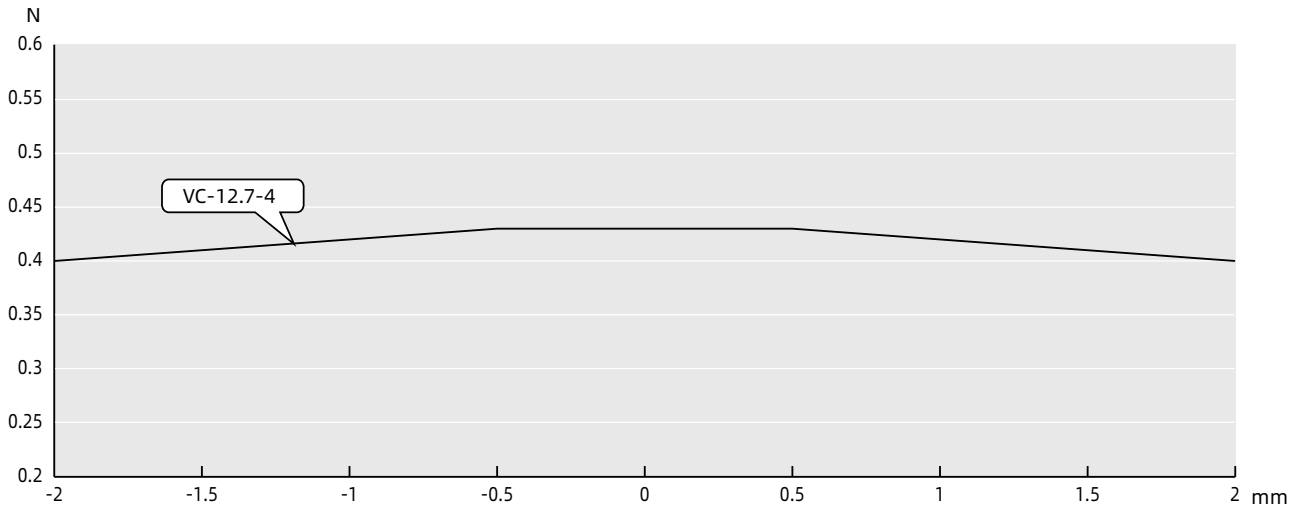
Motor Characteristics

Motor	Stroke (mm)	Back EMF constant (V/m/s)	Continuous force (N)	Continuous current @100°C (A)	Peak thrust force (N)	Force constant (N/A) @ mid position	Resistance (Ω)	Inductance (mH)	Coil gap (mm)	Coil Max. temperature (°C)	Coil assembly weight (g)	Total assembly weight (g)
12.7	4	0.4	0.4	1	3.2	0.4	1.3	0.1	0.38	100	3	7.8

Dimensional Drawings



Force Curve



* The force curve is measured at rated current. Actual thrust may vary depending on the applied current.

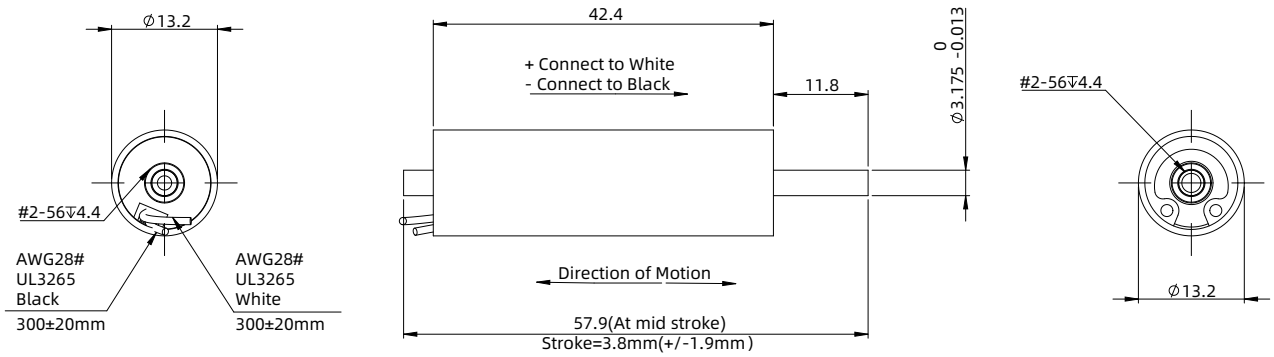
13.2mm Voice coil actuator

High-Force type

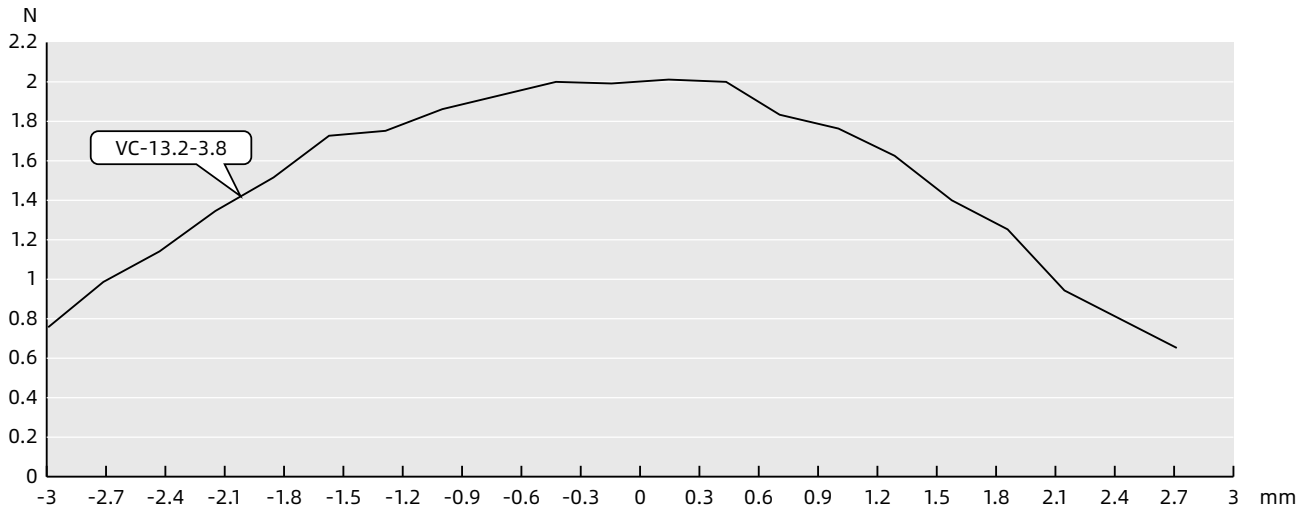
Motor Characteristics

Motor	Stroke (mm)	Back EMF constant (V/m/s)	Continuous force (N)	Continuous current @100°C (A)	Peak thrust force (N)	Force constant (N/A) @ mid position	Resistance (Ω)	Inductance (mH)	Coil gap (mm)	Coil Max. temperature (°C)	Coil assembly weight (g)	Total assembly weight (g)
13.2	3.8	3.2	2.2	0.7	6.7	3.2	3.5	0.25	0.4	100	12	49

Dimensional Drawings



Force Curve



* The force curve is measured at rated current. Actual thrust may vary depending on the applied current.

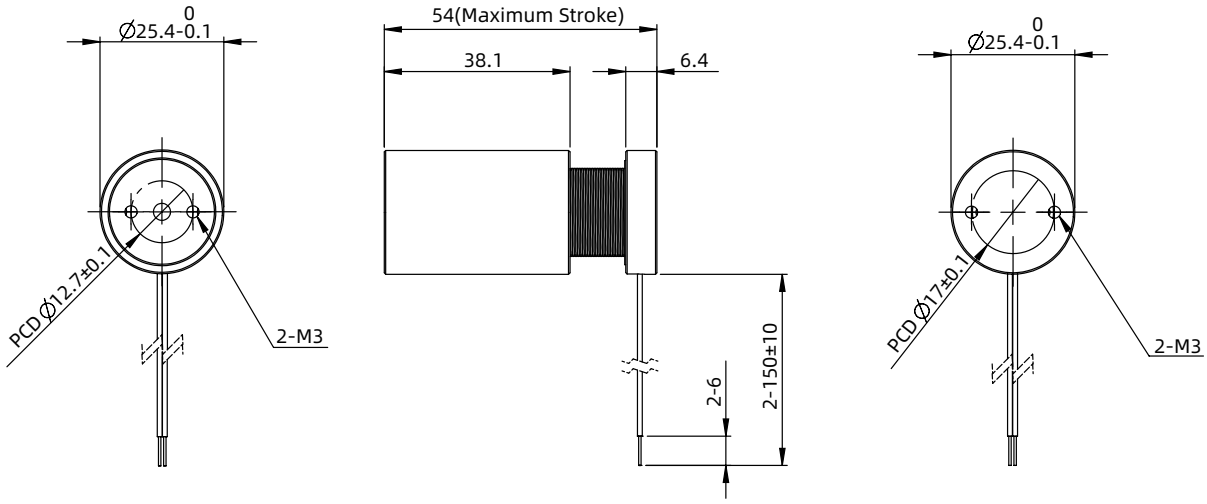
25.4mm Voice coil motor

Standard type

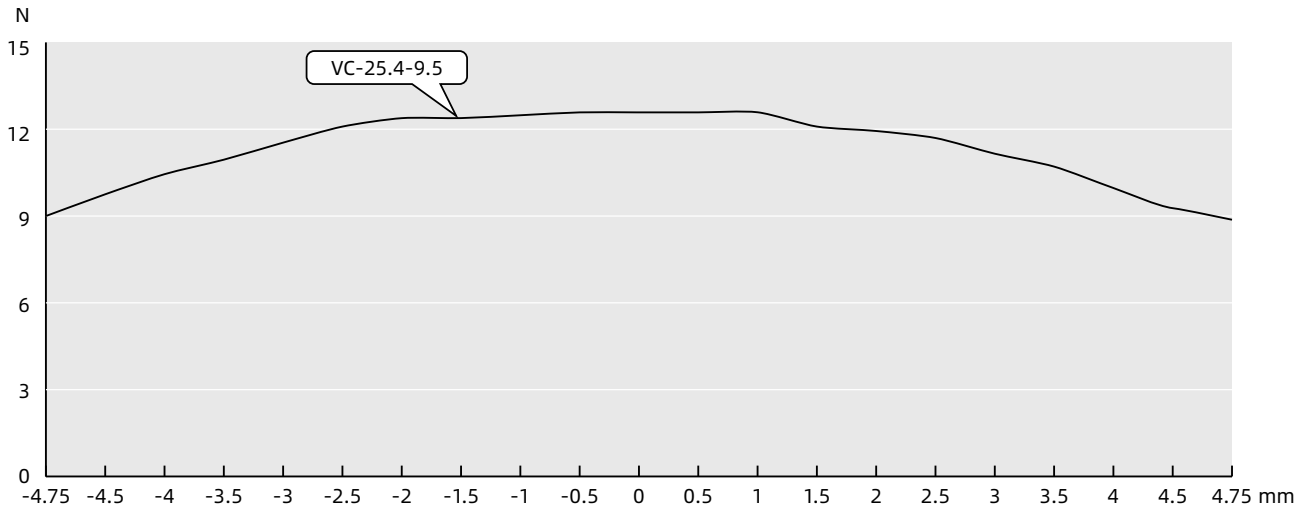
Motor Characteristics

Motor	Stroke (mm)	Back EMF constant (V/m/s)	Continuous force (N)	Continuous current @100°C (A)	Peak thrust force (N)	Force constant (N/A) @ mid position	Resistance (Ω)	Inductance (mH)	Coil gap (mm)	Coil Max. temperature (°C)	Coil assembly weight (g)	Total assembly weight (g)
25.4	9.5	9	11	1.25	31	9	6.9	2	0.38	100	33	102

Dimensional Drawings



Force Curve



* The force curve is measured at rated current. Actual thrust may vary depending on the applied current.

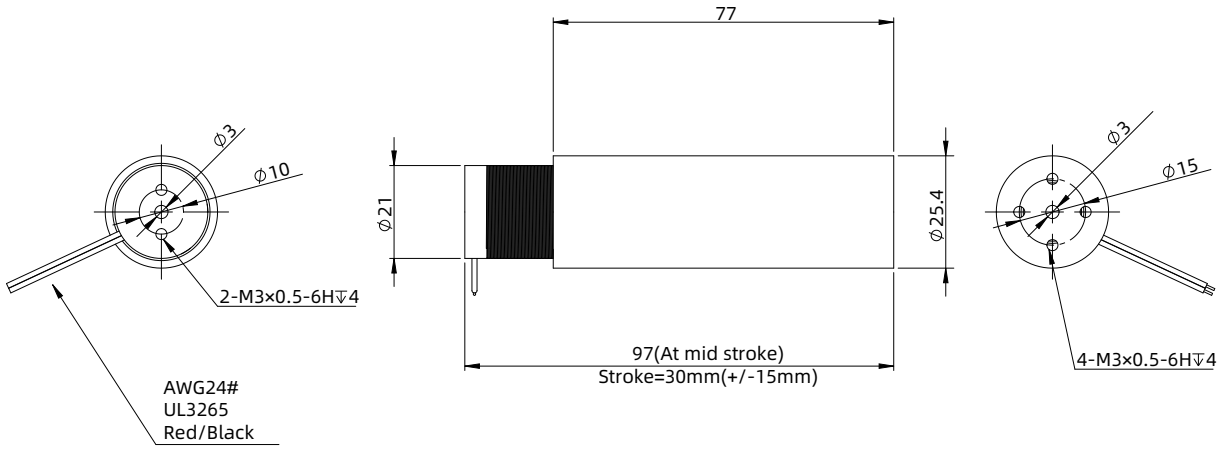
25.4mm Voice coil motor

High-Force type

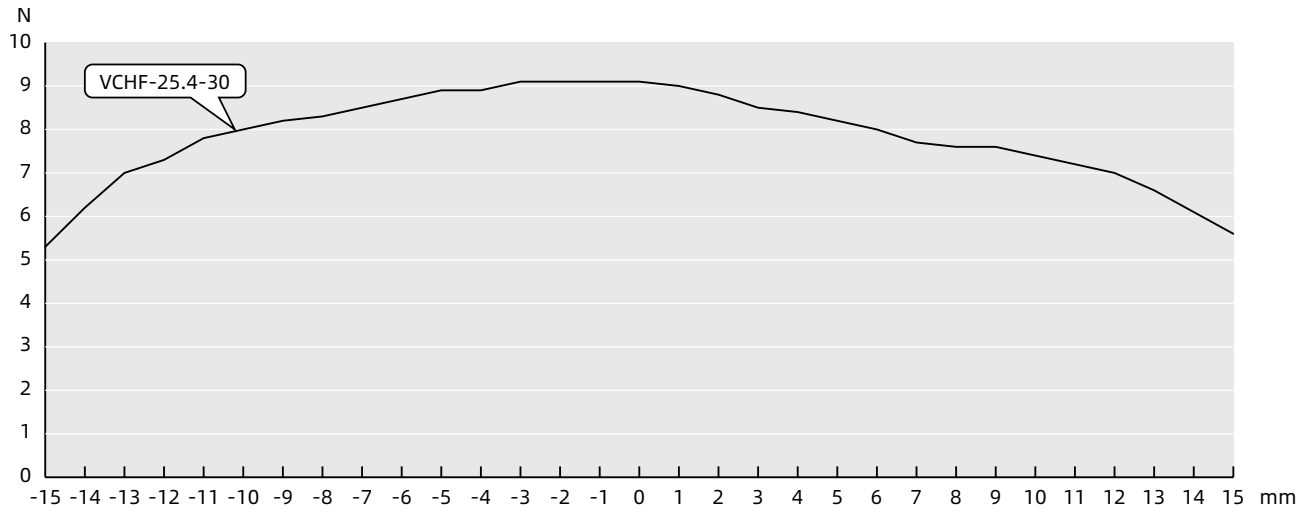
Motor Characteristics

Motor	Stroke (mm)	Back EMF constant (V/m/s)	Continuous force (N)	Continuous current @100°C (A)	Peak thrust force (N)	Force constant (N/A) @ mid position	Resistance (Ω)	Inductance (mH)	Coil gap (mm)	Coil Max. temperature (°C)	Coil assembly weight (g)	Total assembly weight (g)
25.4	30	6	6	1	55	6	17.4	5.04	0.5	100	59	225

Dimensional Drawings



Force Curve



* The force curve is measured at rated current. Actual thrust may vary depending on the applied current.

30mm Voice coil motor

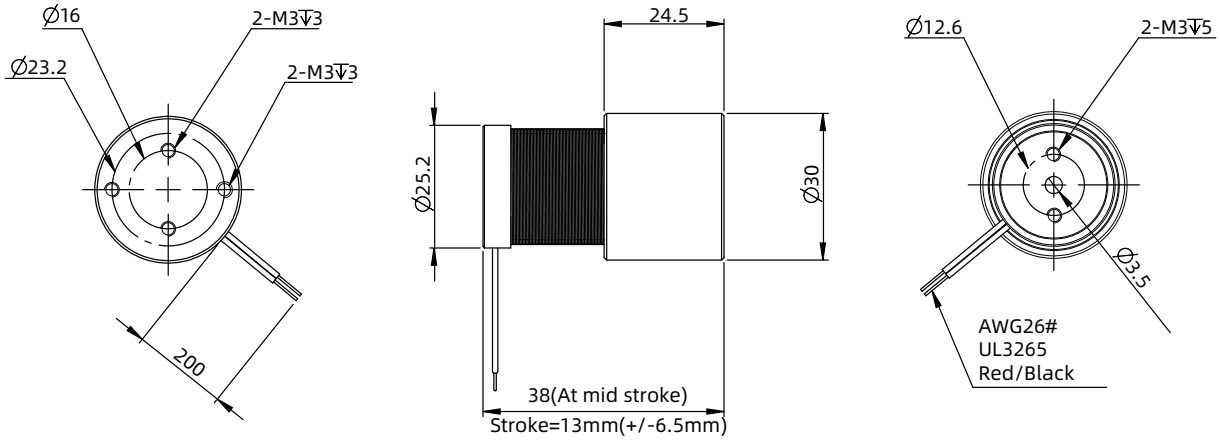
Standard type

Motor Characteristics

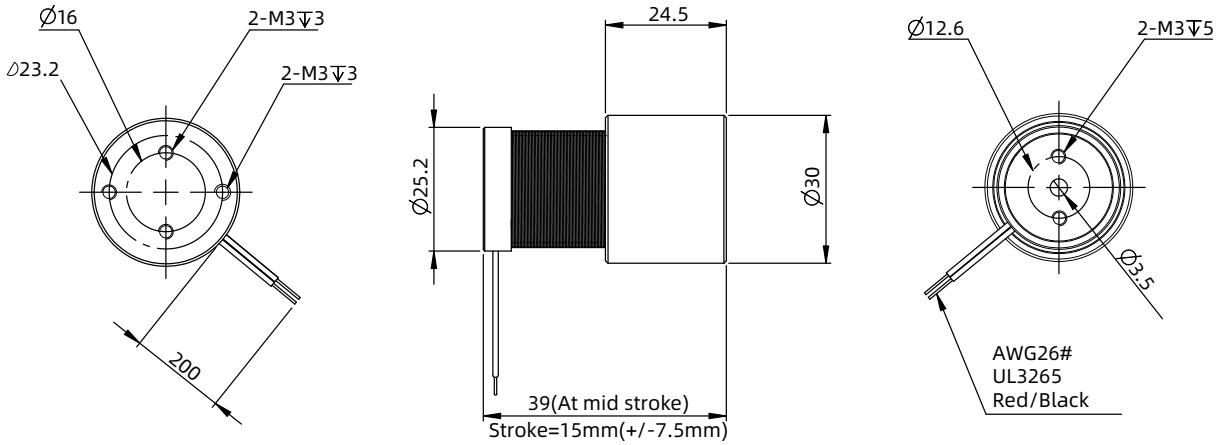
Motor	Stroke (mm)	Back EMF constant (V/m/s)	Continuous force (N)	Continuous current @100°C (A)	Peak thrust force (N)	Force constant (N/A) @ mid position	Resistance (Ω)	Inductance (mH)	Coil gap (mm)	Coil Max. temperature (°C)	Coil assembly weight (g)	Total assembly weight (g)
30	13	7.35	4.63	0.63	29.4	7.35	11.34	2.63	0.6	100	25	96
30	15	7.35	4.63	0.63	29.4	7.35	11.35	2.63	0.6	100	25	96

Dimensional Drawings

- VC-30-13



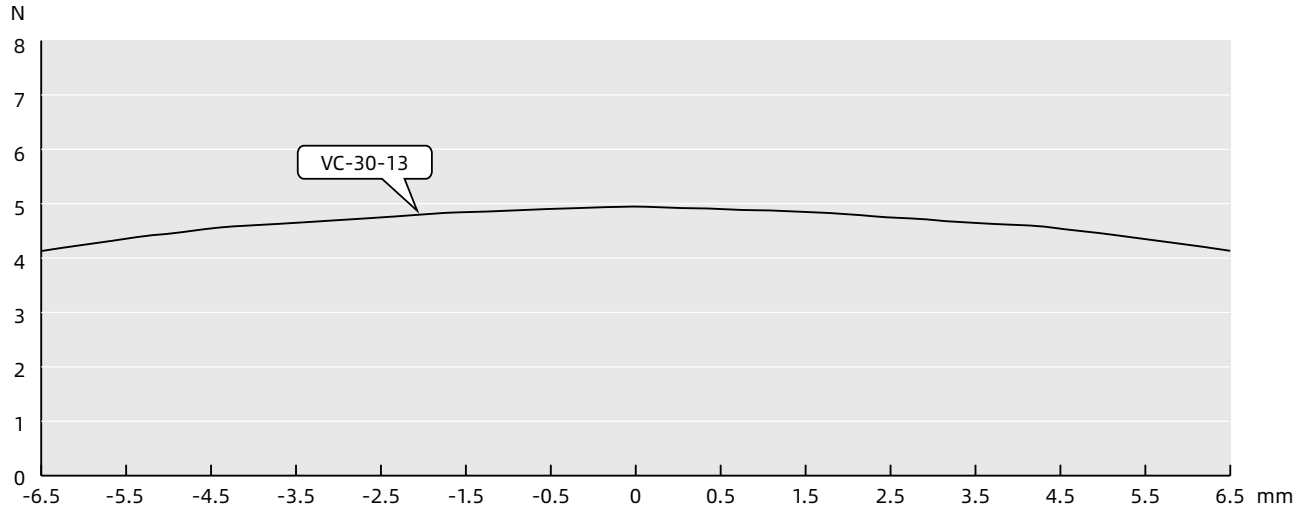
- VC-30-15



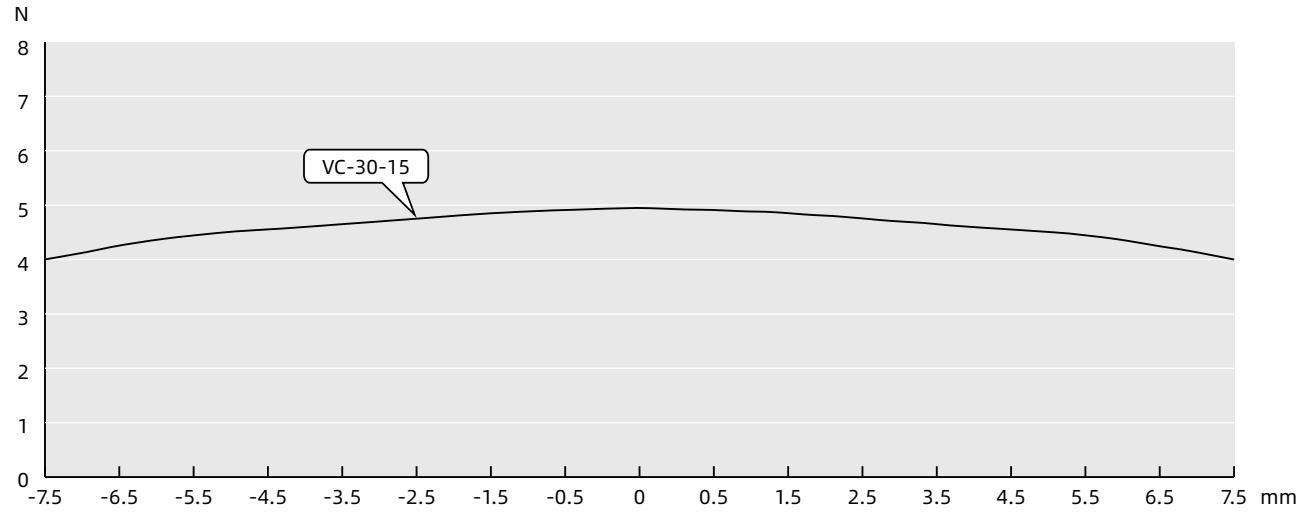
30mm Voice coil motor

Force Curve

VC-30-13



VC-30-15



* The force curve is measured at rated current. Actual thrust may vary depending on the applied current.

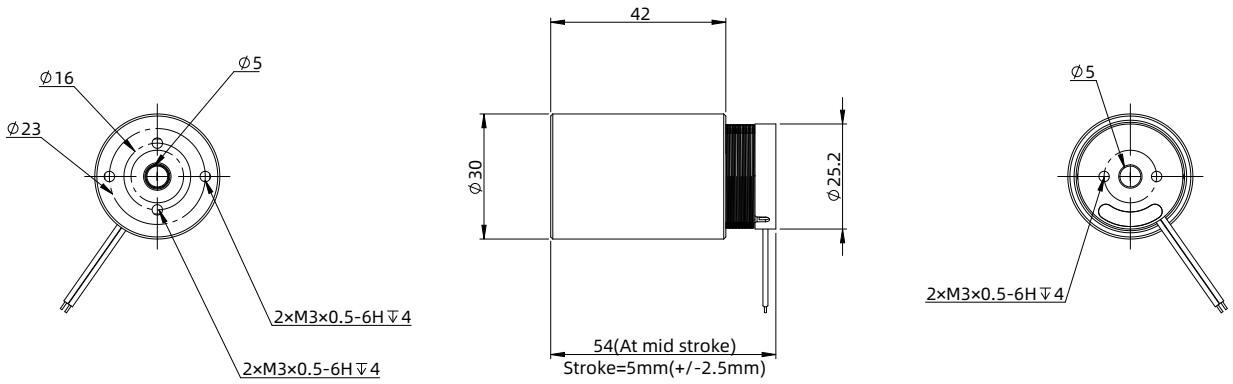
High-Force type

Motor Characteristics

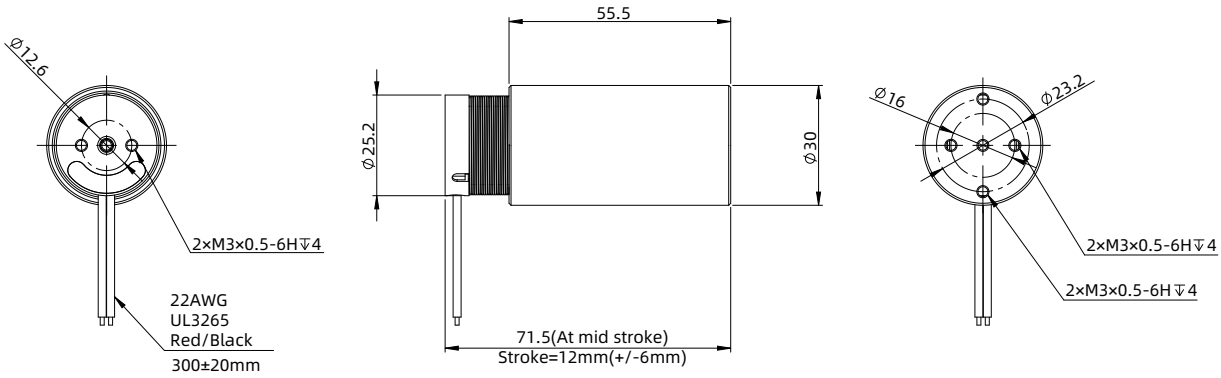
Motor	Stroke (mm)	Back EMF constant (V/m/s)	Continuous force (N)	Continuous current @100°C (A)	Peak thrust force (N)	Force constant (N/A) @ mid position	Resistance (Ω)	Inductance (mH)	Coil gap (mm)	Coil Max. temperature (°C)	Coil assembly weight (g)	Total assembly weight (g)
30	5	11.87	9.5	0.8	65	11.87	10.15	2.24	0.5	100	41	158
30	12	9.12	13	1.5	80	9.12	5.21	1.9	0.5	100	64	190

Dimensional Drawings

- VCHF-30-5



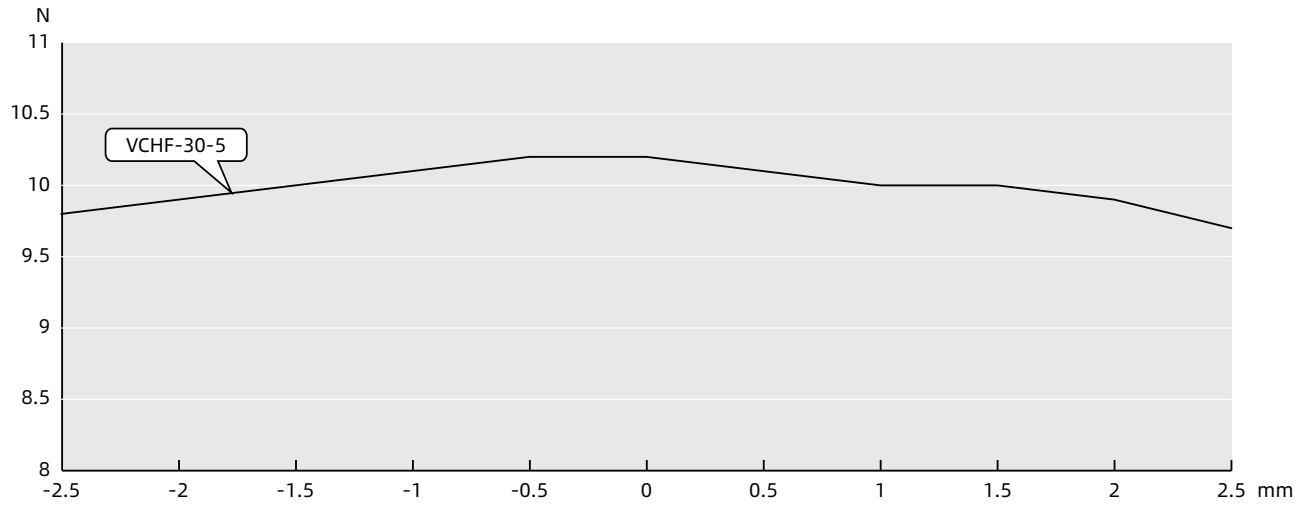
- VCHF-30-12



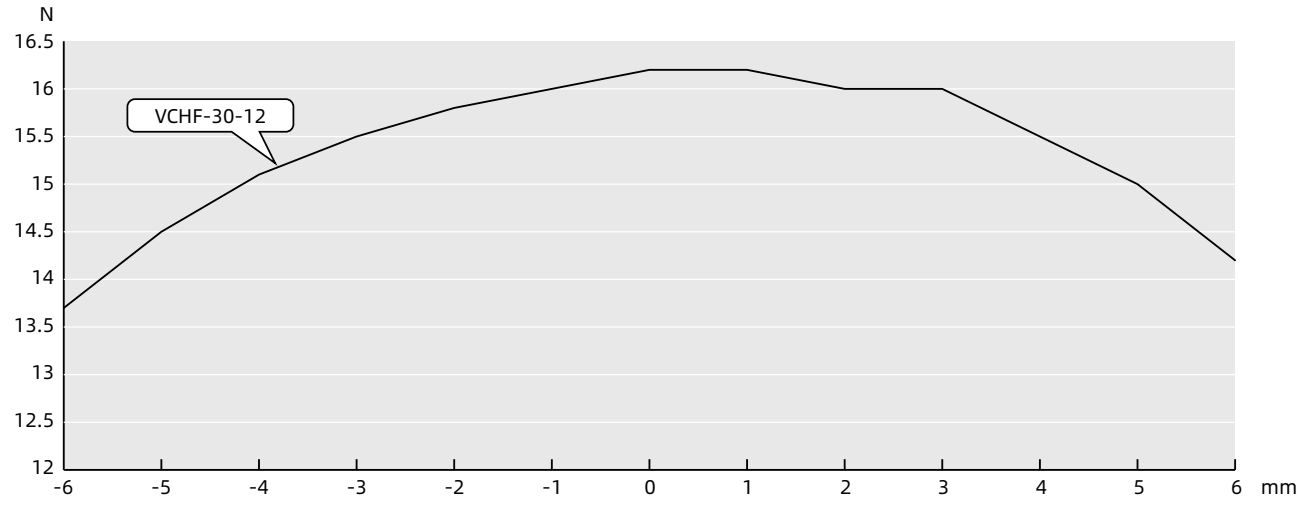
30mm Voice coil motor

Force Curve

VCHF-30-5



VCHF-30-12



* The force curve is measured at rated current. Actual thrust may vary depending on the applied current.

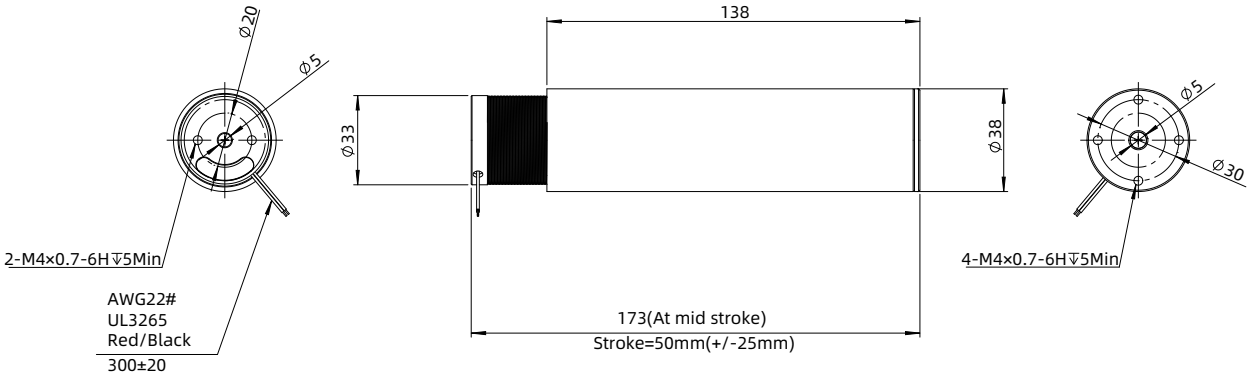
38mm Voice coil motor

High-Force type

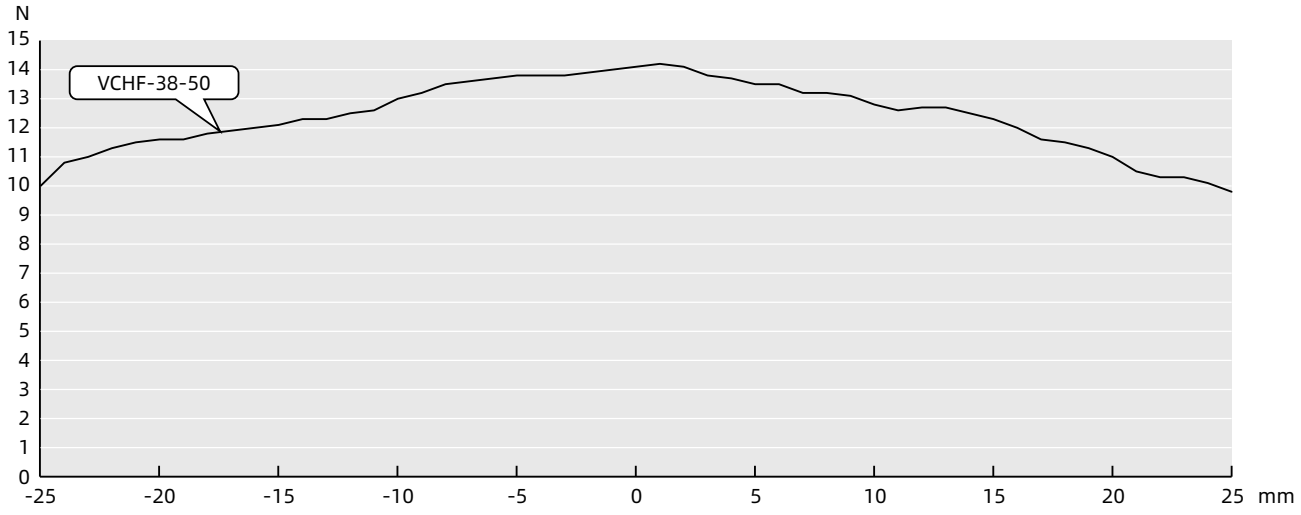
Motor Characteristics

Motor	Stroke (mm)	Back EMF constant (V/m/s)	Continuous force (N)	Continuous current @100°C (A)	Peak thrust force (N)	Force constant (N/A) @ mid position	Resistance (Ω)	Inductance (mH)	Coil gap (mm)	Coil Max. temperature (°C)	Coil assembly weight (g)	Total assembly weight (g)
38	50	10.1	10	1	78	10.1	10.93	5.21	0.5	100	252	707.3

Dimensional Drawings



Force Curve



* The force curve is measured at rated current. Actual thrust may vary depending on the applied current.

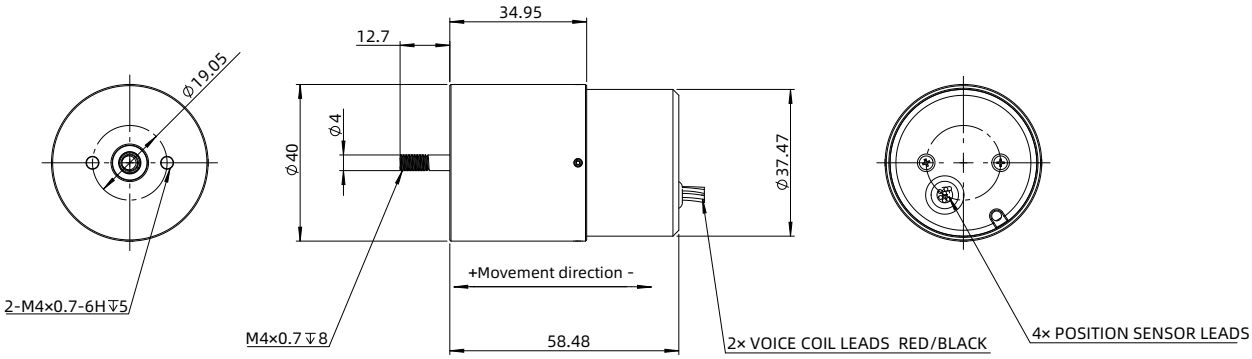
40mm Voice coil actuator

Standard type

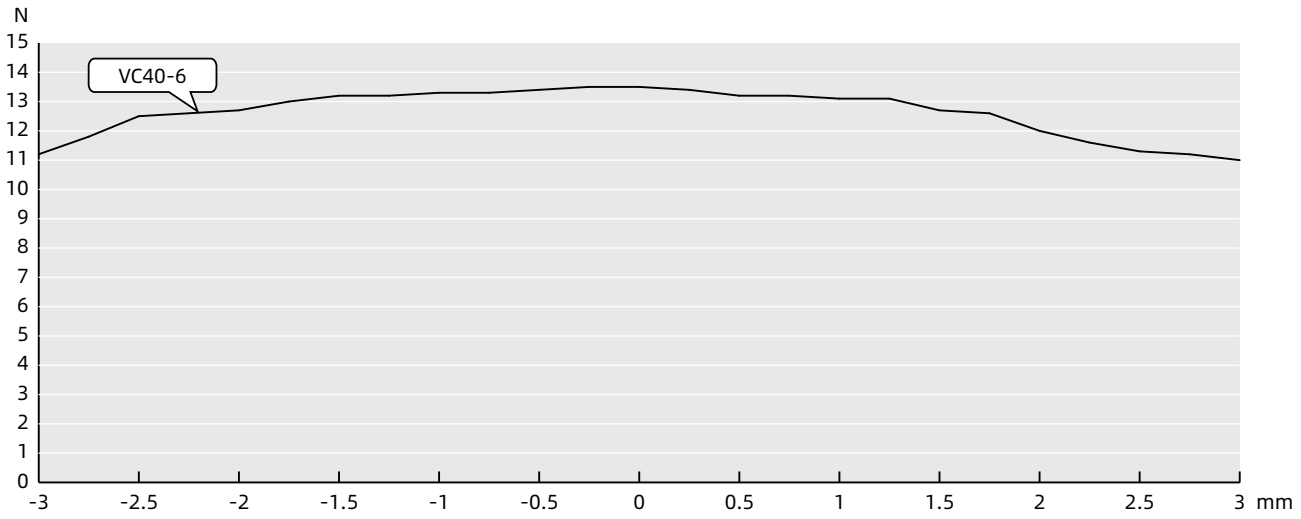
Motor Characteristics

Motor	Stroke (mm)	Back EMF constant (V/m/s)	Continuous force (N)	Continuous current @100°C (A)	Peak thrust force (N)	Force constant (N/A) @ mid position	Resistance (Ω)	Inductance (mH)	Coil gap (mm)	Coil Max. temperature (°C)	Coil assembly weight (g)	Total assembly weight (g)
40	6	11	11	1	40	11	5	1.32	0.5	100	48	244

Dimensional Drawings



Force Curve



* The force curve is measured at rated current. Actual thrust may vary depending on the applied current.

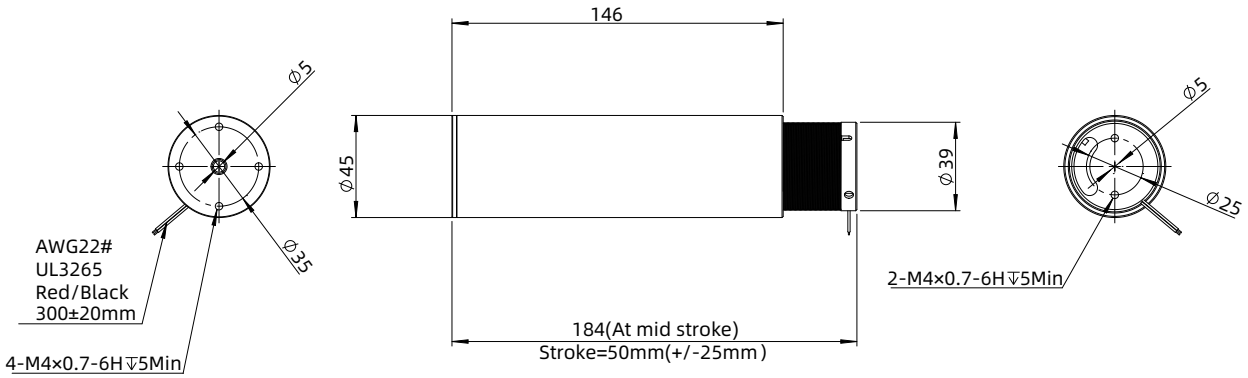
45mm Voice coil motor

High-Force type

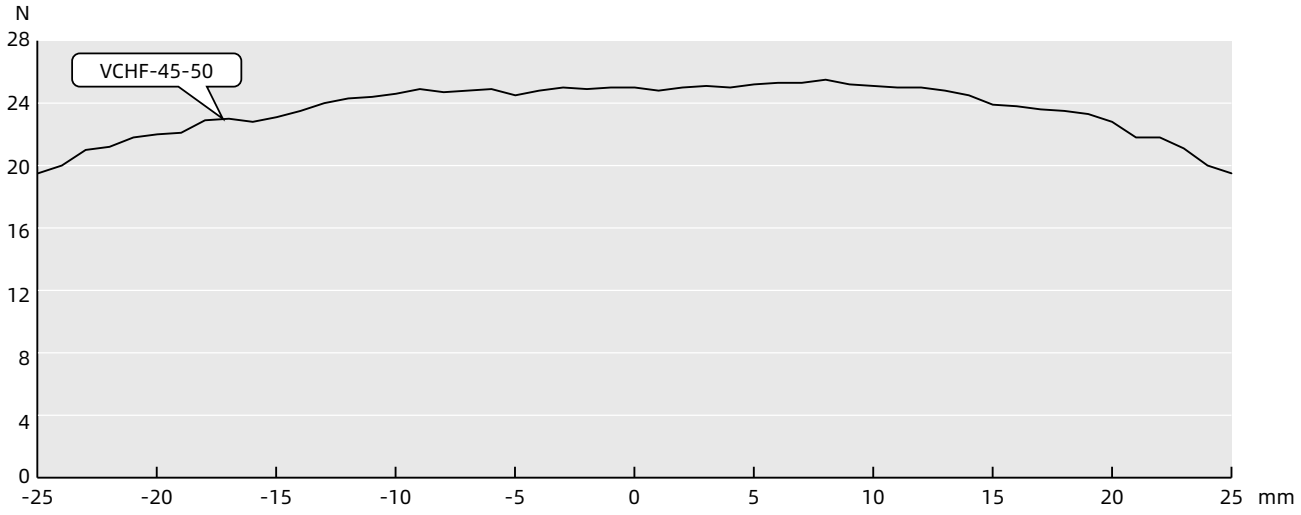
Motor Characteristics

Motor	Stroke (mm)	Back EMF constant (V/m/s)	Continuous force (N)	Continuous current @100°C (A)	Peak thrust force (N)	Force constant (N/A) @ mid position	Resistance (Ω)	Inductance (mH)	Coil gap (mm)	Coil Max. temperature (°C)	Coil assembly weight (g)	Total assembly weight (g)
45	50	19.1	19	1	120	19.1	14.03	6.45	0.5	100	324	1154

Dimensional Drawings



Force Curve



* The force curve is measured at rated current. Actual thrust may vary depending on the applied current.

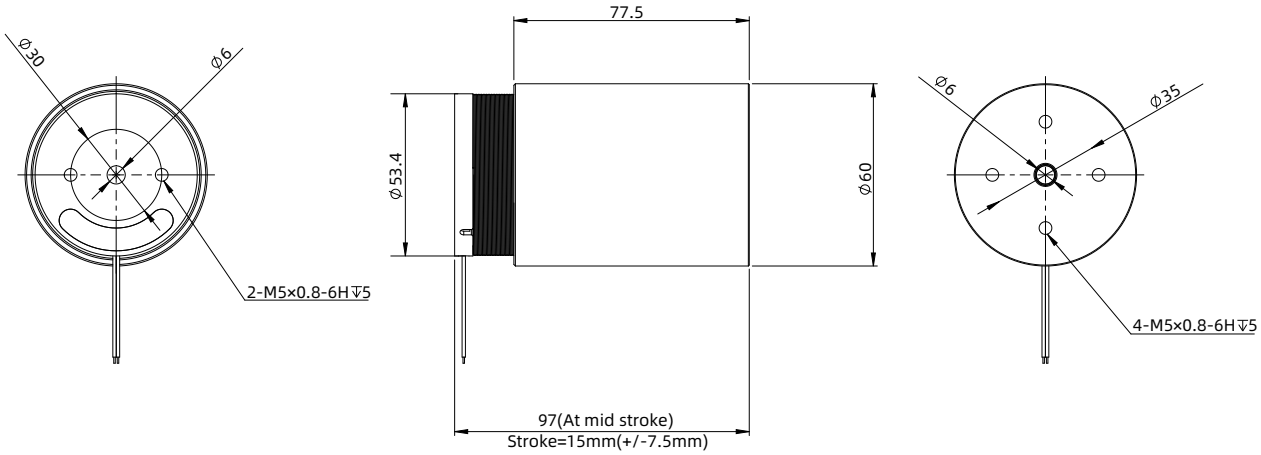
60mm Voice coil motor

High-Force type

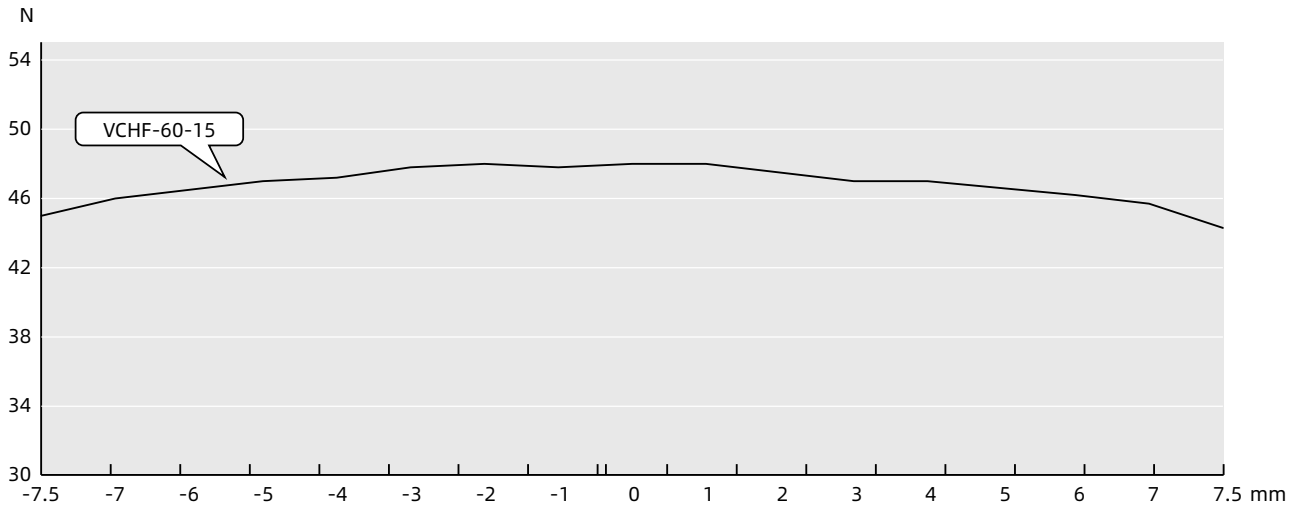
Motor Characteristics

Motor	Stroke (mm)	Back EMF constant (V/m/s)	Continuous force (N)	Continuous current @100°C (A)	Peak thrust force (N)	Force constant (N/A) @ mid position	Resistance (Ω)	Inductance (mH)	Coil gap (mm)	Coil Max. temperature (°C)	Coil assembly weight (g)	Total assembly weight (g)
60	15	36.66	44	1.2	182	36.66	10.57	3.67	0.7	100	251	1183

Dimensional Drawings



Force Curve



* The force curve is measured at rated current. Actual thrust may vary depending on the applied current.

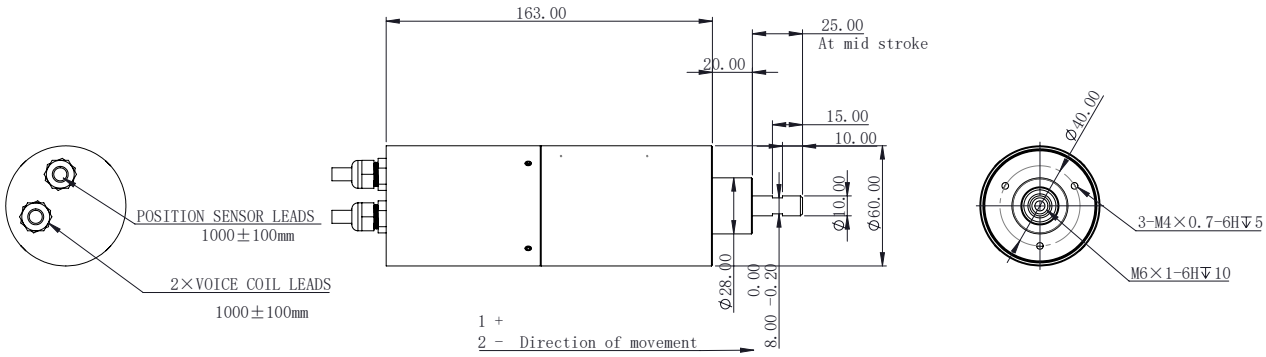
60mm Voice coil linear actuator [Position sensor integrated]

Position sensor integrated

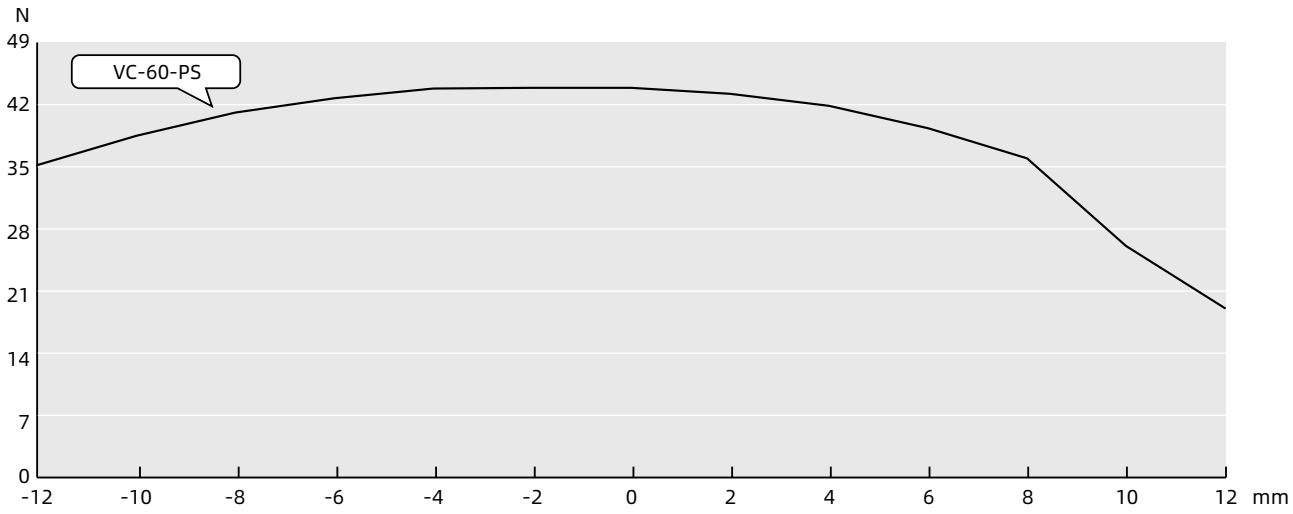
Motor Characteristics

Motor	Stroke (mm)	Back EMF constant (V/m/s)	Continuous force (N)	Continuous current @100°C (A)	Peak thrust force (N)	Force constant (N/A) @ mid position	Resistance (Ω)	Coil gap (mm)	Coil Max. temperature (°C)	Peak current (A)	Magnet weight (g)	Insulation Class	Resolution (μm)
60	15	20	40	2	142	20	6.75 ±10%	0.7	155	7	682	B	1

Dimensional Drawings



Force Curve



* The force curve is measured at rated current. Actual thrust may vary depending on the applied current.

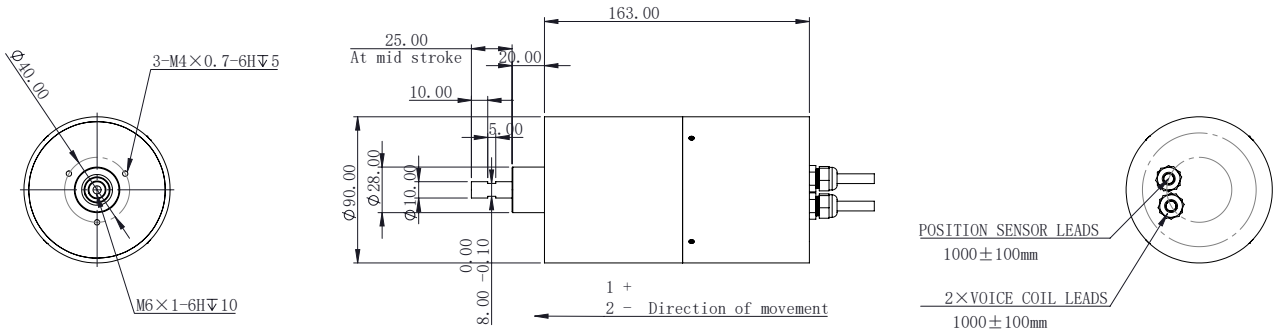
90mm Voice coil linear actuator [Position sensor integrated]

Position sensor integrated

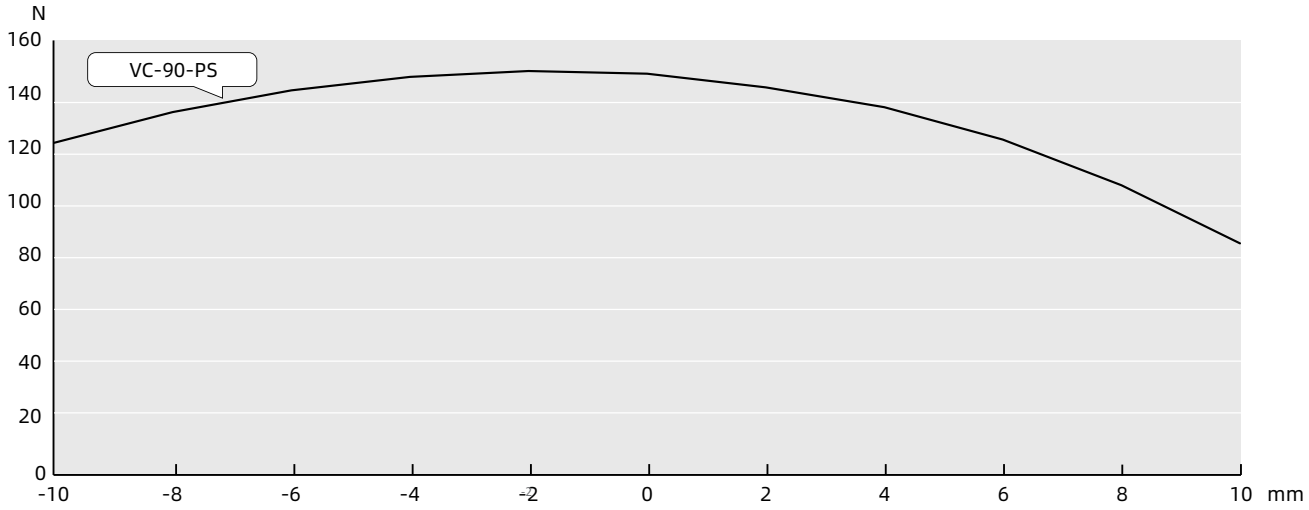
Motor Characteristics

Motor	Stroke (mm)	Back EMF constant (V/m/s)	Continuous force (N)	Continuous current @100°C (A)	Peak thrust force (N)	Force constant (N/A) @ mid position	Resistance (Ω)	Coil gap (mm)	Coil Max. temperature (°C)	Peak current (A)	Magnet weight (g)	Insulation Class	Resolution (μm)
90	15	22.5	90	4	340	22.5	4.00 ±10%	0.7	155	15	1055	B	1

Dimensional Drawings



Force Curve



* The force curve is measured at rated current. Actual thrust may vary depending on the applied current.

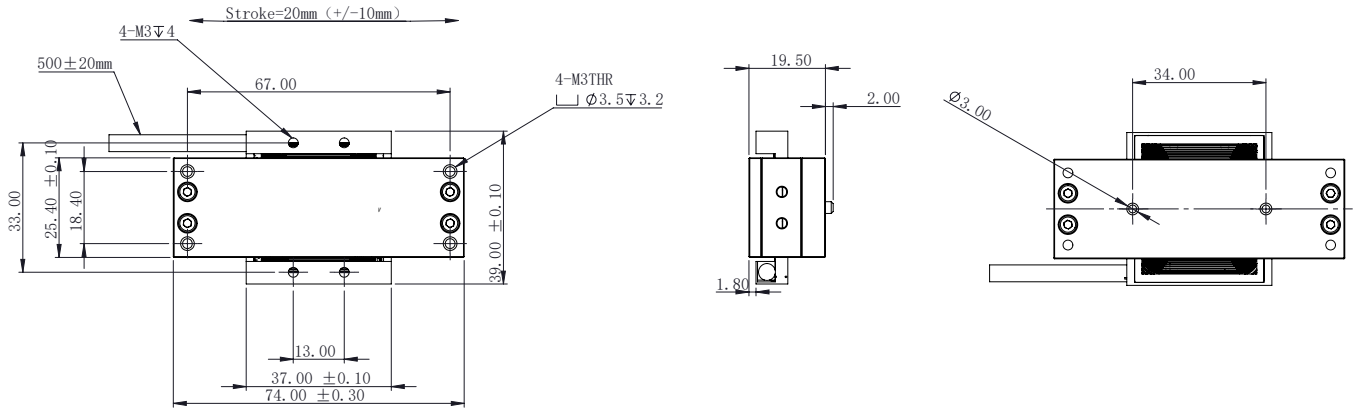
76mm Flat voice coil motor

Flat type

Motor Characteristics

Motor part number	VCXR-76-20-3.8-001	
Stroke	mm	20
Continuous Force	N	3.84
Peak Force	N	11.5
Force Constant	N/A	1.92
Back EMF Constant	V/m/s	1.92
Motor Constant	N/√W	1.62
Resistance	Ω	1.4 ±10%
Inductance	mH	0.27 ±10%
Electrical Time Constant	ms	0.19
Continuous Current (Coil at 100°C)	A	2
Peak Current	A	6
Continuous Power Dissipation	W	7.2
Max. Coil Temperature	°C	155
Max. Voltage	Vdc	60
Coil Assembly Mass	g	22
Magnet Weight	g	215
Coil Clearance	mm	0.6
Insulation Class	-	B

Dimensional Drawings



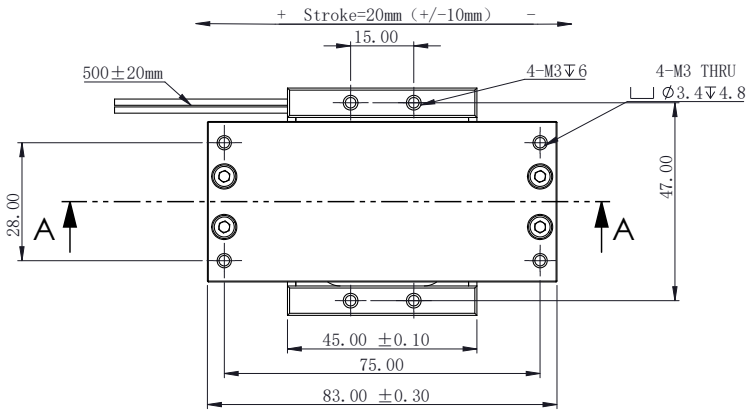
97mm Flat voice coil motor

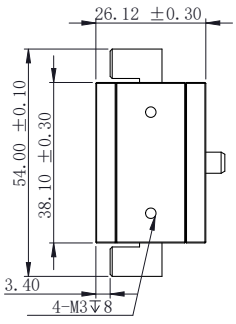
Flat type

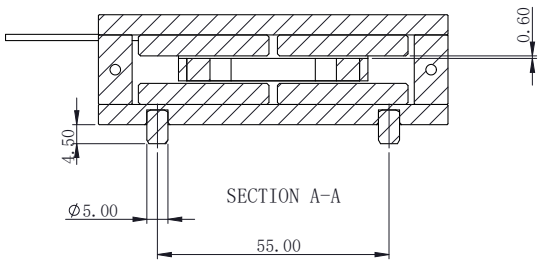
Motor Characteristics

Motor part number	VCXR-97-20-11.69-001	
Stroke	mm	20
Continuous Force	N	11.69
Peak Force	N	35.1
Force Constant	N/A	8.35
Back EMF Constant	V/m/s	8.35
Resistance	Ω	3.7 ±10%
Inductance	mH	1.24 ±20%
Electrical Time Constant	ms	0.35
Continuous Current (Coil at 100°C)	A	1.4
Peak Current	A	4.2
Max. Coil Temperature	°C	155
Coil Assembly Mass	g	45
Magnet Weight	g	496
Coil Clearance	mm	0.6
Insulation Class	-	B

Dimensional Drawings







DINGS'
Precision Motion Specialist

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