

AGV Motion Driving Solution



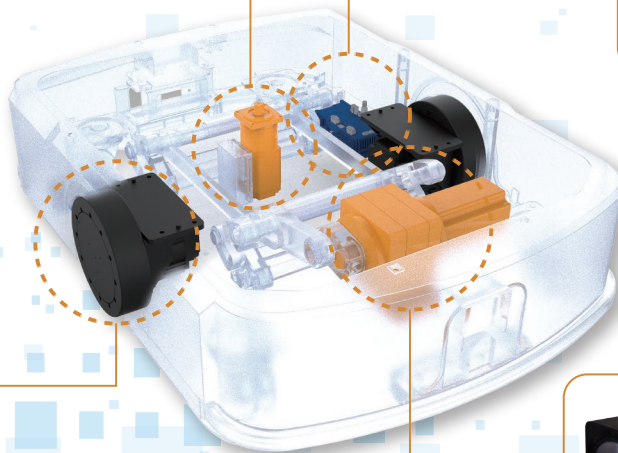
Slim Motor



Rotation Module



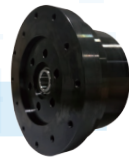
Drive



Driving Wheel



Integrated Motor



Wheel Edge
Planetary Gearbox



Jacking Module



Slim Motor

COMPANY PROFILE



Founded in 1994, MOONS' has grown to be a leading manufacturer of integrated motion control products, intelligent lighting products, and intelligent management systems. MOONS' is dedicated to providing its customers with system level solutions and continuously keeps the way to pursue innovation and high quality.

So far MOONS' has had a worldwide presence with sales, R&D or manufacturing sites in the United States, Europe, Japan, and Southeast Asia. There are more than 4,000 employees today in MOONS' who are committed to providing the best solutions to meet all customers' needs.

On May 9th 2017, MOONS' entered the capital market and was listed on the Shanghai Stock Exchange. Since then, MOONS' began to leverage these additional resources to widely expand its offerings and make all efforts to move in better ways.

Nowadays, factory/warehouse/logistics are developing quickly in unmanned & robotized direction.

So Moons' is actively cooperating to **provide whole motion driving solutions for AGV/AMR/ACR...etc.**

Whole motion driving solution for latent jacking (floor) AGV:

■ MSD Driving Wheel

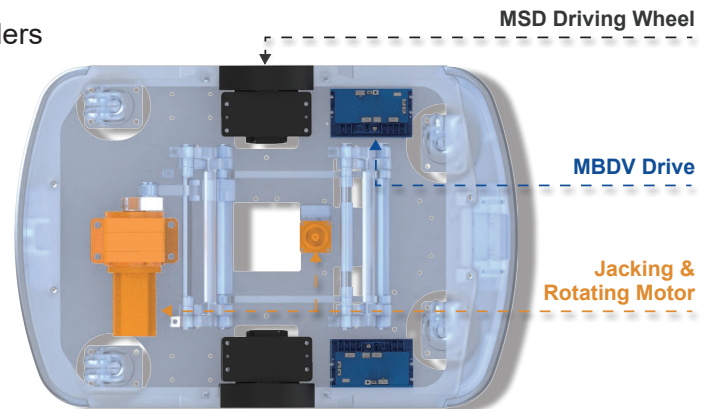
MSD160 – 10 – 075 – 20 G SL – N **

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

- ① MSD O.D.: 125/150/160/180/200/230/250 (Unit: mm)
- ② Gear Ratio: 10/16/20/32
- ③ Power: 075—750W, 100—1000W etc.
- ④ Rated Speed: 20—2000rpm, 30—3000rpm etc.
- ⑤ Winding Voltage: G—DC48V, J—DC24V
- ⑥ Encoder: SL—Single Encoder, EL—Dual Encoders
- ⑦ Brake: N—Without, B—With
- ⑧ **: Customized Code

■ MBDV DRIVE

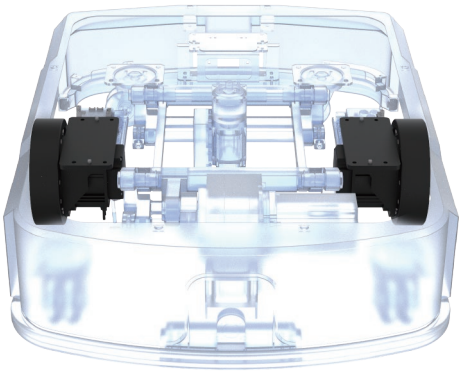
■ JACKING & ROTATING MOTOR



MSD150-10-040-20GSL-N/B

MSD Specifications

O.D. of wheel \ width of wheel	mm	150 \ 36
Max. radial load of wheel	kg	455
Speed at max. load	m/s	1.6
Peak speed at no load	m/s	2.4
Gearbox ratio	--	10
Basic DC bus voltage	V(DC)	48
Rated output power	Watts	400
Rated speed	rpm	2000
Rated torque	Nm	1.91
Peak torque	Nm	4.78
Rated current	A (rms)	11.4
Peak current	A (rms)	27.8
Brake	N/A (Optional)	
Encoder feedback	16-bit Incremental magnetic encoder	
Wheel characteristics	material	polyurethane or customization

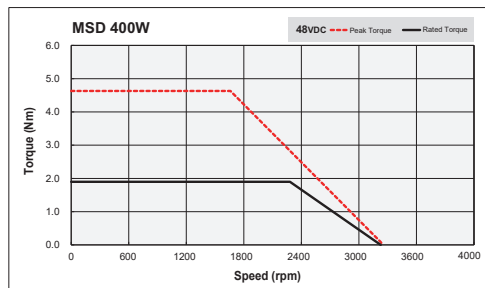


- Short length on axis
- Low noise
- High quality & Widely used

MBDV Specifications

Voltage (VDC)	24-60
Output continuous current (A rms)	20
Output peak current (A rms)	60
Safety function	STO, Dynamic brake, Emergency stop
Dimensions	Refer to page 15 for details

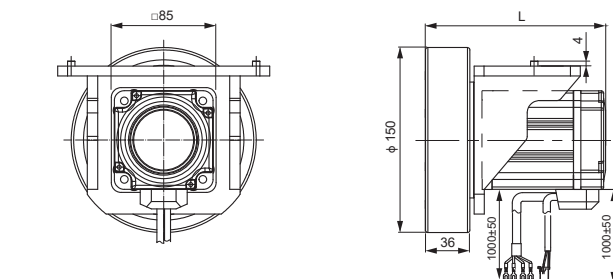
■ Torque Curves



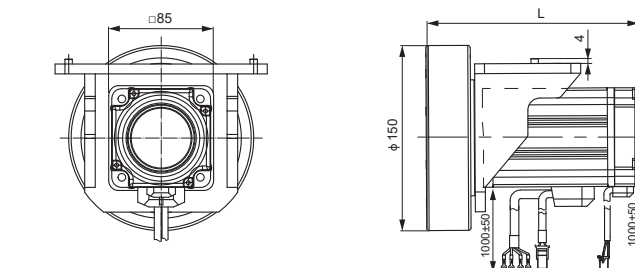
■ Gearbox Specifications

Ratio	10
Back lash	≤15arc
Rated torque	90N.m
Max. acceleration torque	162N.m
Emergency stop torque	270N.m
Efficiency	97%

■ Dimensions (Unit: mm)



Without Brake	L
MSD150-10-040-20GSL-N	146

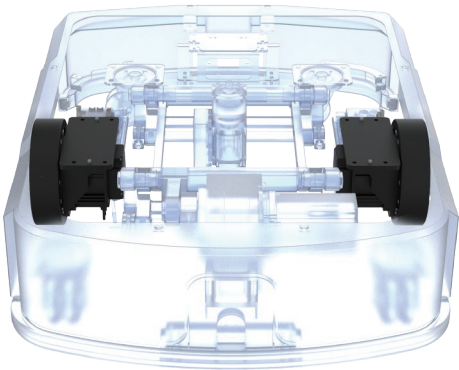


With Brake	L
MSD150-10-040-20GSL-B	172.5

MSD160-10-075-20GSL-N/B

MSD Specifications

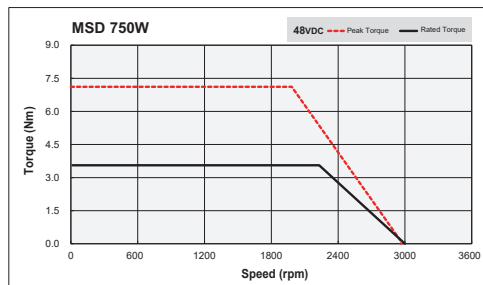
O.D. of wheel \ width of wheel	mm	160 \ 36
Max. radial load of wheel	kg	455
Speed at max. load	m/s	1.7
Peak speed at no load	m/s	2.1
Gearbox ratio	--	10
Basic DC Bus Voltage	V(DC)	48
Rated output oower	Watts	750
Rated speed	rpm	2000
Rated torque	Nm	3.6
Peak torque	Nm	7.2
Rated current	A (rms)	16.1
Peak current	A (rms)	32.7
Brake	N/A (Optional)	
Encoder feedback	16-bit Incremental magnetic encoder	
Wheel characteristics	material	polyurethane or customization



MBDV Specifications

Voltage (VDC)	24-60
Output continuous current (A rms)	20
Output peak current (A rms)	60
Safety function	STO, Dynamic brake, Emergency stop
Dimensions	Refer to page 15 for details

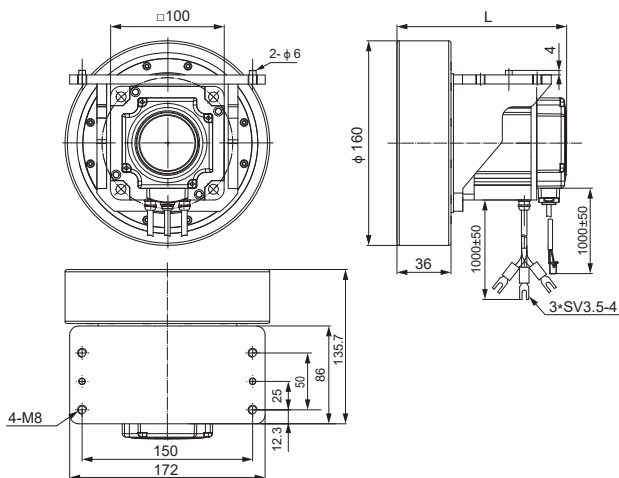
■ Torque Curves



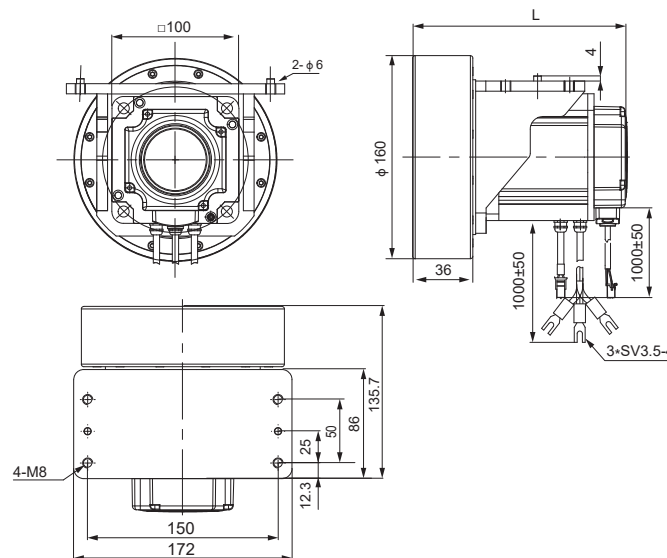
■ Gearbox Specifications

Ratio	10
Back lash	≤15arc
Rated torque	90N.m
Max acceleration torque	162N.m
Emergency stop torque	270N.m
Efficiency	97%

■ Dimensions (Unit: mm)



Without Brake	L
MSD160-10-075-20GSL-N	136

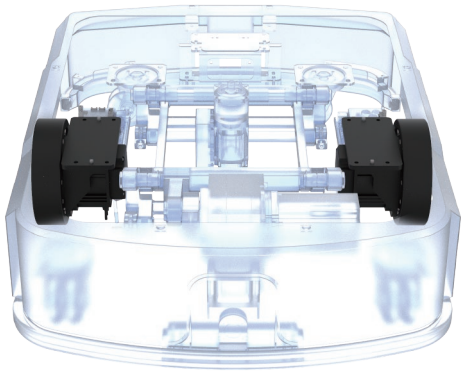


With Brake	L
MSD160-10-075-20GSL-B	156

MSD180-10-075-20GSL-N/B

MSD Specifications

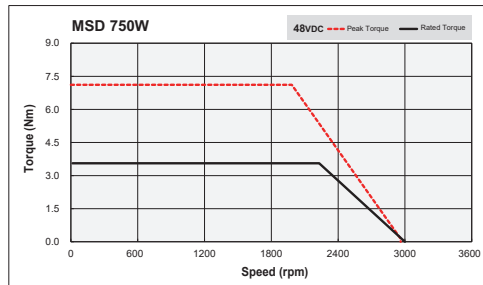
O.D. of wheel \ width of wheel	mm	180 \ 47.5
Max. radial load of wheel	kg	625
Speed at max. load	m/s	1.9
Peak speed at no load	m/s	2.4
Gearbox ratio	--	10
Basic DC bus voltage	V(DC)	48
Rated output power	Watts	750
Rated speed	rpm	2000
Rated torque	Nm	3.6
Peak torque	Nm	7.2
Rated current	A (rms)	16.1
Peak current	A (rms)	32.7
Brake	N/A (Optional)	
Encoder feedback	16-bit Incremental magnetic encoder	
Wheel characteristics	material	polyurethane or customization



MBDV Specifications

Voltage (VDC)	24-60
Output continuous current (A rms)	20
Output peak current (A rms)	60
Safety function	STO, Dynamic brake, Emergency stop
Dimensions	Refer to page 15 for details

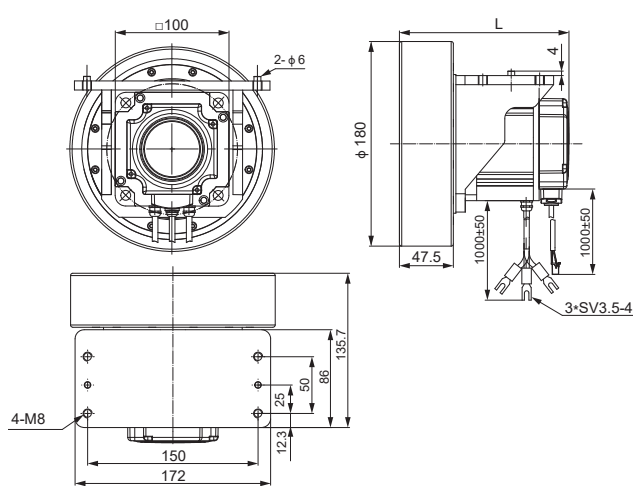
■ Torque Curves



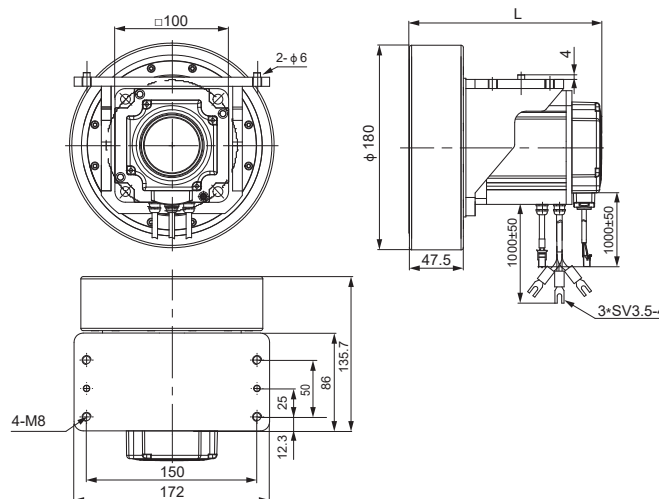
■ Gearbox Specifications

Ratio	10
Back lash	≤15arc
Rated torque	95N.m
Max. acceleration torque	171N.m
Emergency stop torque	285N.m
Efficiency	97%

■ Dimensions (Unit: mm)



Without Brake	L
MSD180-10-075-20GSL-N	148

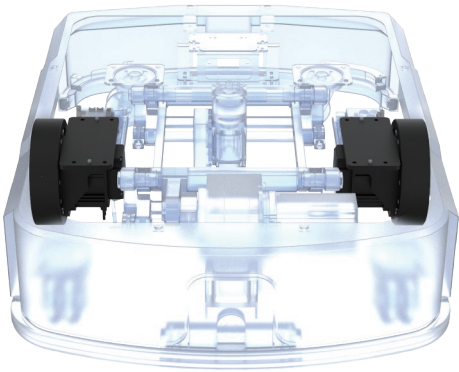


With Brake	L
MSD180-10-075-20GSL-B	168

MSD180-10-100-20GSL-N/B

MSD Specifications

O.D. of wheel \ width of wheel	mm	180 \ 47.5
Max. radial load of wheel	kg	625
Speed at max. load	m/s	1.9
Peak speed at no load	m/s	2.4
Gearbox ratio	--	10
Basic DC bus voltage	V(DC)	48
Rated output power	Watts	1000
Rated speed	rpm	2000
Rated torque	Nm	4.8
Peak torque	Nm	7.2
Rated current	A (rms)	24.2
Peak current	A (rms)	35.1
Brake	N/A (Optional)	
Encoder feedback	16-bit Incremental magnetic encoder	
Wheel characteristics	material	polyurethane or customization

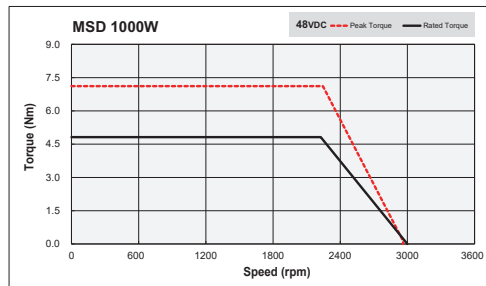


- Short length on axis
- Low noise
- High quality & Widely used

MBDV Specifications

Voltage (VDC)	24-60
Output continuous current (A rms)	20
Output peak current (A rms)	60
Safety function	STO, Dynamic brake, Emergency stop
Dimensions	Refer to page 15 for details

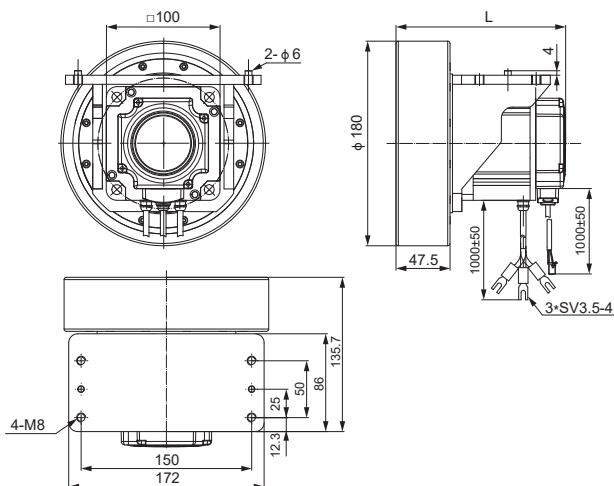
Torque Curves



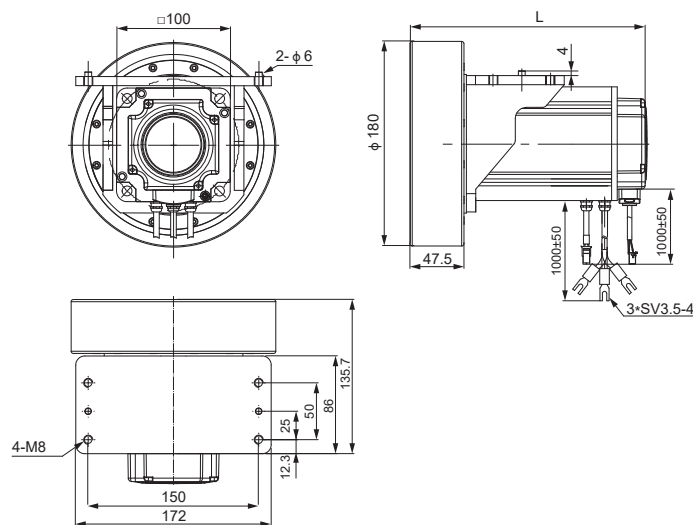
Gearbox Specifications

Ratio	10
Back lash	≤15arc
Rated torque	95N.m
Max. acceleration torque	171N.m
Emergency stop torque	285N.m
Efficiency	97%

Dimensions (Unit: mm)



Without Brake	L
MSD180-10-100-20GSL-N	161

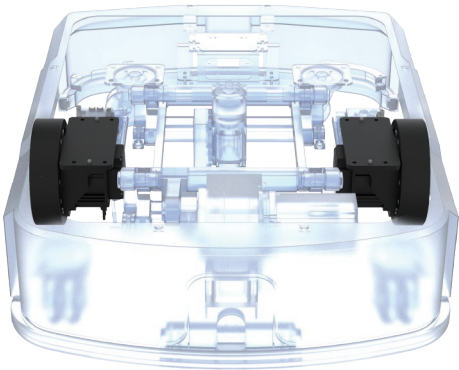


With Brake	L
MSD180-10-100-20GSL-B	207.5

MSD200-10-100-20GSL-N/B

MSD Specifications

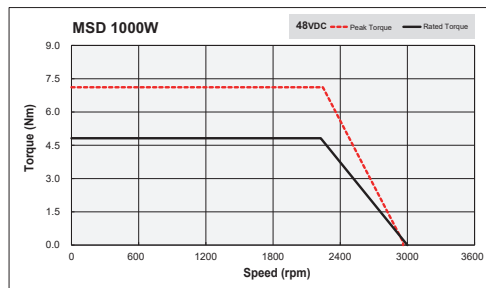
O.D. of wheel \ width of wheel	mm	200 \ 47.5
Max. radial load of wheel	kg	625
Speed at max. load	m/s	2.1
Peak speed at no load	m/s	2.6
Gearbox ratio	--	10
Basic DC bus voltage	V(DC)	48
Rated output power	Watts	1000
Rated speed	rpm	2000
Rated torque	Nm	4.8
Peak torque	Nm	7.2
Rated current	A (rms)	24.2
Peak current	A (rms)	35.1
Brake	N/A (Optional)	
Encoder feedback	16-bit Incremental magnetic encoder	
Wheel characteristics	material	polyurethane or customization



MBDV Specifications

Voltage (VDC)	24-60
Output continuous current (A rms)	20
Output peak current (A rms)	60
Safety function	STO, Dynamic brake, Emergency stop
Dimensions	Refer to page 15 for details

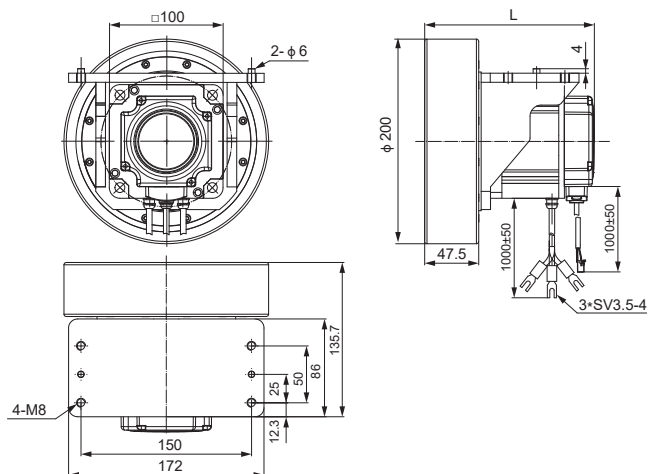
■ Torque Curves



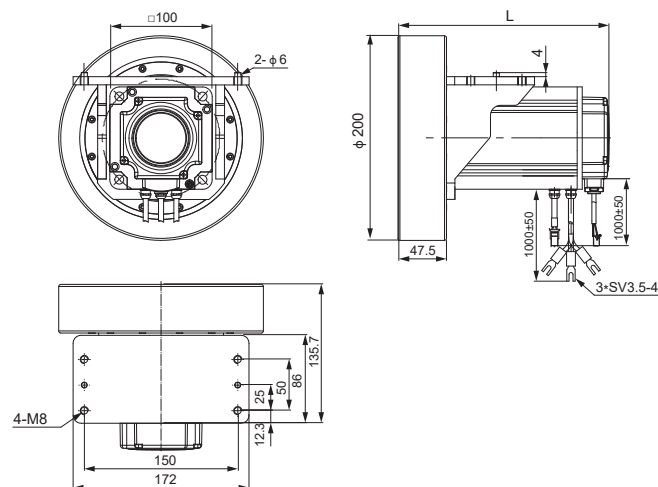
■ Gearbox Specifications

Ratio	10
Back lash	≤15arc
Rated torque	95N.m
Max. acceleration torque	171N.m
Emergency stop torque	285N.m
Efficiency	97%

■ Dimensions (Unit: mm)



Without Brake	L
MSD200-10-100-20GSL-N	161



With Brake	L
MSD200-10-100-20GSL-B	207.5

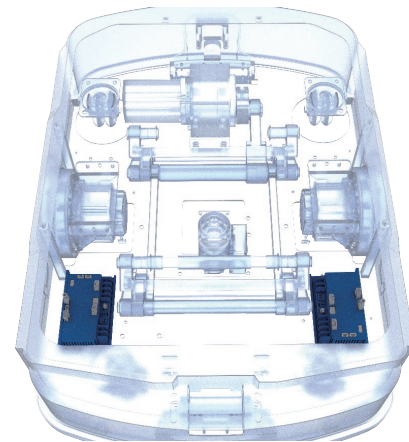
MBDV DRIVE

■ MBDV Numbering System

MBDV - 2X - 5 20A C - ***

① ② ③ ④ ⑤ ⑥

- ① MBDV Series
- ② Multi-axis in One
Blank: Single-axis
2X: Dual-axis
- ③ Supply Voltage
5: 24~60VDC
- ④ Current
20A: Rated Current 20A(RMS)
Peak Current 60A(RMS)
3SA: Rated Current 40A(RMS)
Peak Current 120A(RMS)
- ⑤ Control Function Type
C — CANopen & RS485
- ⑥ Customized Code



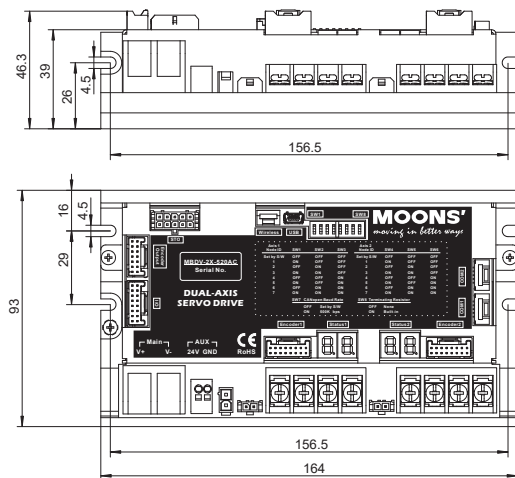
- Compact size, single and dual-axis design options
- Compatible with 100W ~ 1.5KW servo motors
- Field bus communication watch dog and emergency stop

■ MBDV Specifications

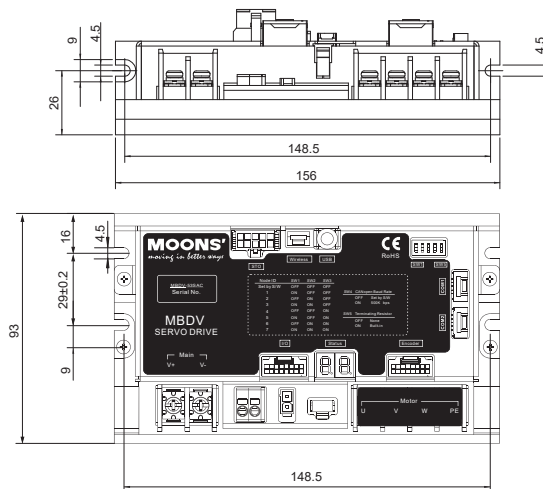
Voltage (VDC)	24~60
Control mode	<ul style="list-style-type: none"> ◆ CANopen communication control mode Complicate with CiA402 standard and supports PP, PV, PVT, TQ and HM mode ◆ Modbus/RTU communication control mode Command position mode, command speed mode, command torque mode
Dynamic braking	Built in
STO	STO compliant with *SIL3 Level
Certification	RoHS、CE、UL

Note: * Certification is pending

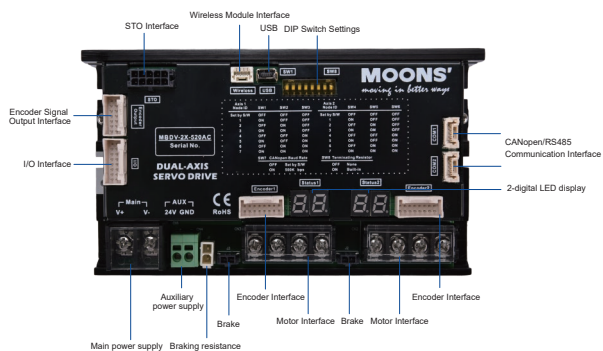
■ MBDV-2X-520AC Size (Unit: mm)



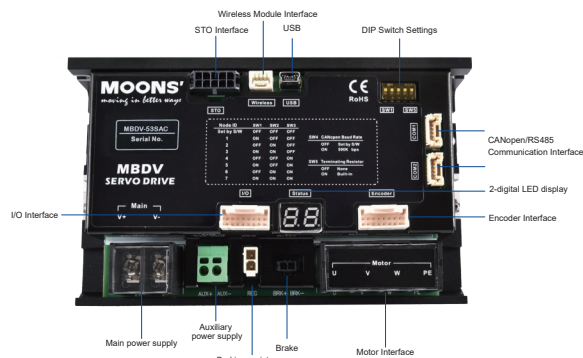
■ MBDV-53SAC Size (Unit: mm)



■ MBDV-2X-520AC Interface Description



■ MBDV-53SAC Interface Description

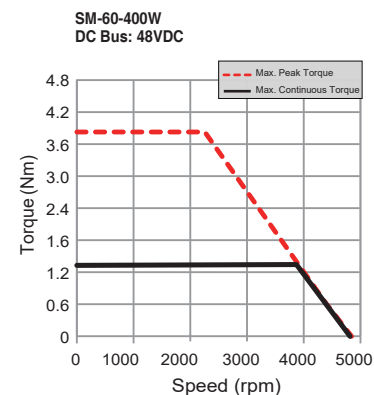


JACKING & ROTATING MOTOR

60mm-Specifications

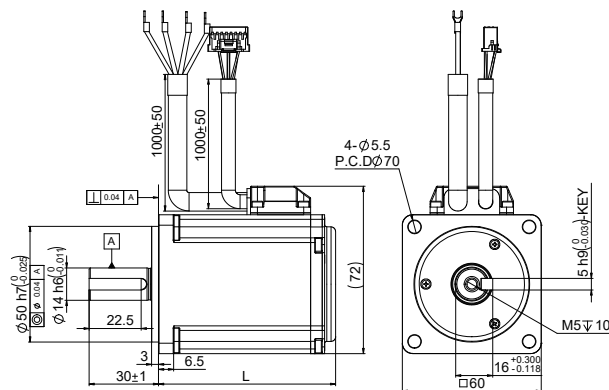
Model		SM0602GSL-KCY-NNV-10	SM0602GSL-KCY-BNV-10
Basic DC bus voltage	V(DC)	48	48
Rated output power	Watts	400	400
Rated speed	rpm	3000	3000
Max. speed	rpm	4800	4800
Rated torque	Nm	1.27	1.27
Peak torque	Nm	3.8	3.8
Rated current	A (rms)	12.6	12.6
Peak current	A (rms)	38	38
Voltage constant $\pm 5\%$	V(rms)/K rpm	6.25	6.25
Torque constant $\pm 5\%$	Nm/A(rms)	0.103	0.103
Inertia	kg m ²	0.566×10^{-4}	0.62×10^{-4}
Shaft load - axial	N (max.)	70	70
Shaft load - radial (end of shaft)	N (max.)	240	240
Brake	--	without	with
Gearbox option	--	N/A (optional)	
Encoder feedback		16-bit Incremental magnetic encoder	

Torque Curves



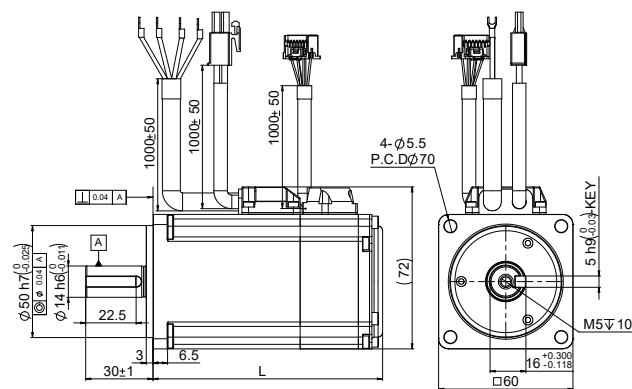
Dimensions (Unit: mm)

Without Brake



Without Brake	L
SM0602GSL-KCY-NNV-10	76.5

With Brake



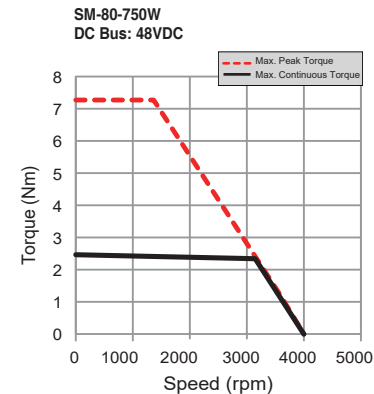
With Brake	L
SM0602GSL-KCY-BNV-10	102.5

JACKING & ROTATING MOTOR

80mm-Specifications

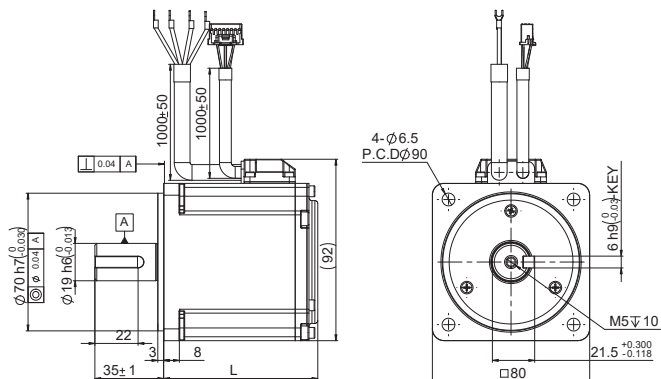
Model		SM0803GSL-KCY-NNV-10	SM0803GSL-KCY-BNV-10
Basic DC bus voltage	V(DC)	48	48
Rated output power	Watts	750	750
Rated speed	rpm	3000	3000
Max. speed	rpm	4000	4000
Rated torque	Nm	2.4	2.4
Peak torque	Nm	7.2	7.2
Rated current	A (rms)	19	19
Peak current	A (rms)	60	60
Voltage constant $\pm 5\%$	V(rms)/K rpm	7.75	7.75
Torque constant $\pm 5\%$	Nm/A(rms)	0.128	0.128
Inertia	kg m ²	1.46×10^{-4}	1.63×10^{-4}
Shaft load - axial	N (max.)	90	90
Shaft load - radial (end of shaft)	N (max.)	270	270
Brake	--	without	with
Gearbox option	--	N/A (optional)	
Encoder feedback		16-bit Incremental magnetic encoder	

Torque Curves



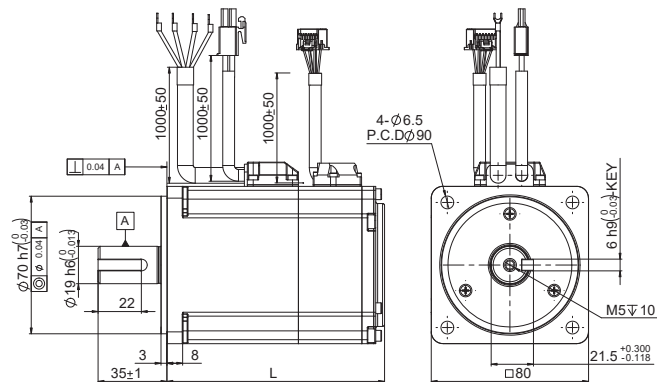
Dimensions (Unit: mm)

Without Brake



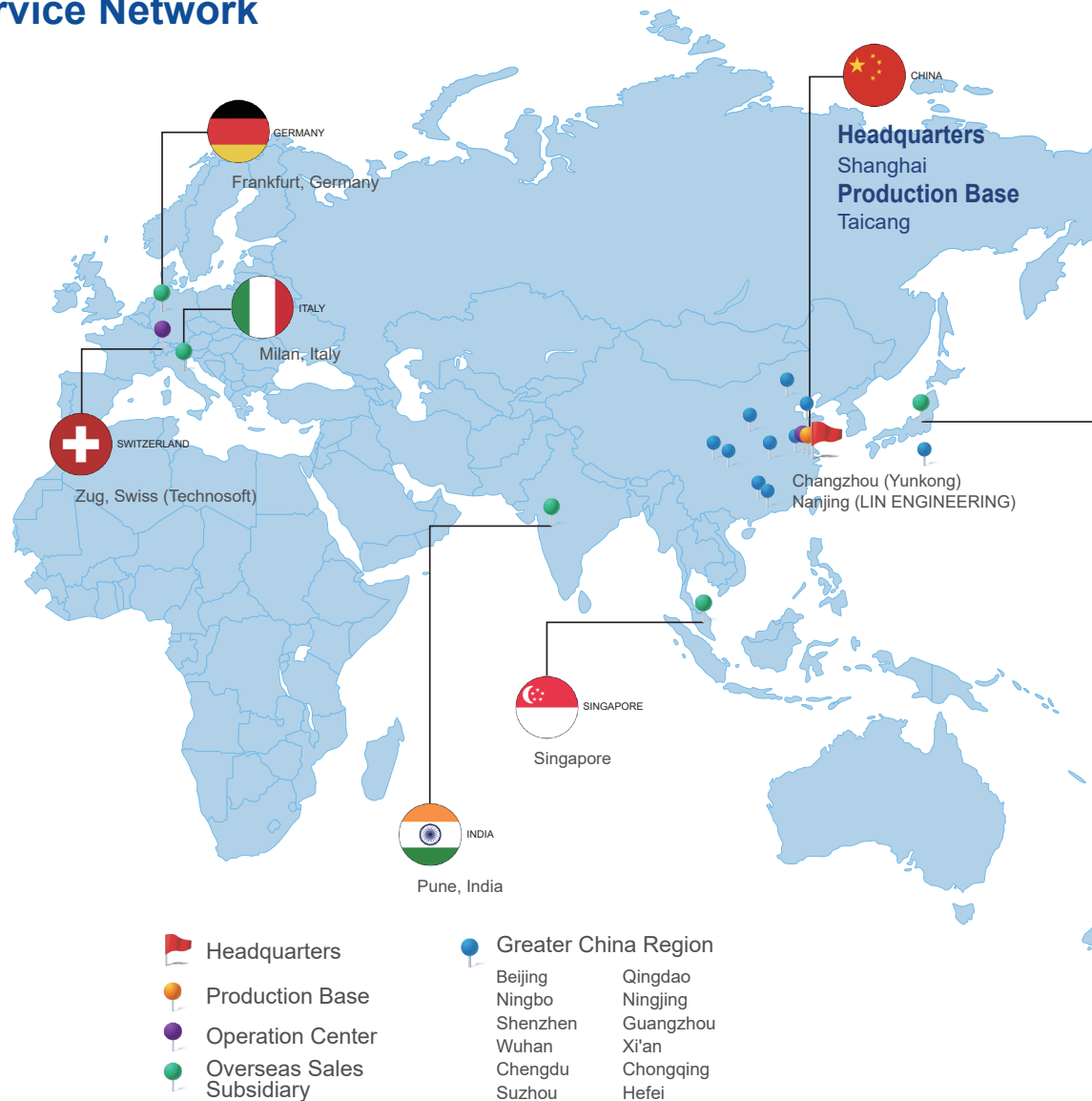
Without Brake	L
SM0803GSL-KCY-NNV-10	78.4

With Brake



With Brake	L
SM0803GSL-KCY-BNV-10	110.7

Worldwide Service Network





MOONS' has set up twelve offices in China, as well as subsidiaries in other countries including the United States, Italy, Singapore, Japan and Germany. Our business covers major countries and regions in North America, Europe, Asia and Southeast Asia ensure MOONS' close to where you are.



Customer Service Center

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Chongqing

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APPLIED MOTION PRODUCTS, INC. (Morgan Hill)
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<https://www.moonsindustries.com/>

E-mail: ama-info@moons.com.cn

MOONS'
moving in better ways

- All the specifications, technical parameters of the products provided in this catalog are for reference only, subject to change without notice. For the latest details, please contact with our sales department.