MOTOR POWER COMPANY



SEE IT BEFORE IT HAPPENS

GEARLESS MOTOROLLER AND PALLET CONVEYOR

GEARLESS MOTOROLLER AND PALLET CONVEYOR

Introducing the future in sorting and material handling technology



Complete technological innovation in movement

Motor Power Company keeps developing new concepts in sorting and material handling.
Our goal is sharing with the market our domain expertise in intralogistics; innovative solutions through our gearless and geared technology products. We propose motion control bundles composed by gearless motorollers and smart drives.
All our solutions are in-house developed and are particularly oriented for control, movement, storage and protection of materials and products throughout manufacturing, sorting, warehousing, distribution, consumption and disposal.
Motor Power Company specialises in the design, development and manufacturing of high performance industrial motion solutions. We have acquired consolidated expertise and technical know-how from 30 years experience with all kinds of applications and through our continuous commitment to research and development.
This allows us to partner leading international companies in the supply of products and solutions for automation and motion control.

GEARLESS MOTOROLLERS AND DRIVES

Increased efficiency and limitless performances

Motor Power Company introduces these perfect matched bundles costituted by gearless motorollers and smart drives. Everything has been conceived as a specific product for conveyor, crossbelt or any roller transfer systems.

Two versions are proposed; frameless cartridges without tube, to be inserted into the roller to be moved, and power pack version, a ready to use motoroller embedded in its own tube. The technology on which the motor is based comes from the direct drive torque motors. Consequently, the motion is transmitted directly from the motoroller to the load, without any gears.

Motoroller without gears ensures:

> HIGH MTBF
as the motoroller needs less components than the standard kinematic chain

> SYSTEM EFFICIENCY INCREASE
due to the absence of gears inside the motoroller

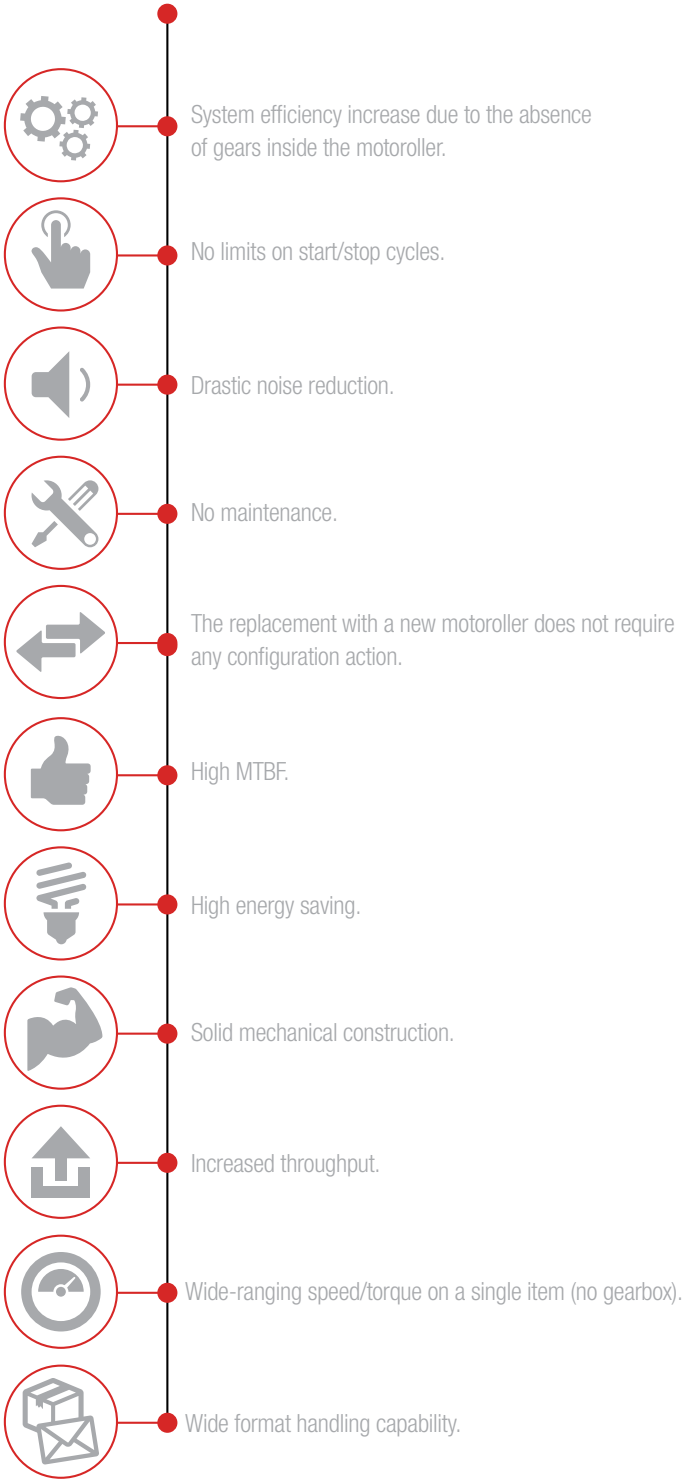
> ACCURACY
due to the feedback reliability

> HIGH DYNAMIC
thanks to the direct drive technology

> EASY REPLACEMENT
with the autotuning system of DMR Drives, the substitution
with a new motoroller does not require any configuration action

> EASY COMMISSIONING
due to a unique part number, there are no different gearbox ratios to handle according to different speed needs

> WIDE SPEED AVAILABILITY
one motoller for all speed range



THE GEARLESS MOTOROLLER SERIES AT A GLANCE

GEARLESS MOTOROLLER 46 Cartridge version

800rpm@24-48 Vdc

Frameless gearless cartridge motoroller for general conveyor applications.

Suitable for 50mm roller tube integration, roller tube range available on request



Features

» Two models
» Rated power 50 Watt and 115 Watt
» Rated torque 0,6 Nm and 1,35 Nm
» Hall sensors and encoder feeback for higher precision
» Cartridge diameter 46 mm suitable for all 50 mm diameter tube
» 24 and 48Vdc power supply
» Full speed control
» Wide roller customization

GEARLESS POWER PACK MOTOROLLER 60

800rpm@60 Vdc



Tube equipped gearless motoroller for cross belt driving and controlling

Features

» Ready to use
» Rated power 235 Watt
» Rated torque 2,8 Nm
» 60Vdc power supply
» 48 and 65 Vdc for power supply
» Full speed control

GEARLESS MOTOROLLER 76 Cartridge version

800rpm@48-65 Vdc

Gearless cartridge motoroller for cross belt driving and controlling. Suitable for 80mm roller tube integration, roller tube range available on request



Features

» Rated power 260 WattZ
» Rated torque 3,1 Nm
» Encoder feeback for higher precision
» Cartridge diameter 76 mm suitable for alla 80 mm diameter tube
» 48 and 65 Vdc for power supply
» Full speed control
» Wide roller customization

THE DRIVE SERIES AT A GLANCE

DMR 50-5/50 DUAL AXES DRIVE



The perfect matched drive for enhancing motoroller 46 features

Features

» Dual axes operation
» 24 and 48 Vdc operating supply voltage
» Encoder and Hall Sensor feeback
» CanOpen Fieldbus
» RS485 programming interface
» I/O programmability for speed, start and stop control

LITE PRO DRIVE



Lite Pro drive is ideal for controlling motoroller 60

Features

»24 and 48 Vdc operating supply voltage
» Encoder and Hall Sensor feeback
» CanOpen Fieldbus
» I/O programmability for speed, start and stop control

DMR 76-10/65



Motoroller 76 matches drive DMR 76-10/65 for the perfect bundle

Features

» 24 and 65 Vdc operating supply voltage
» Encoder and Hall Sensor feeback
» Profibus Fieldbus
» I/O programmability for speed, start and stop control
» I/O proxy dual loop

MTR 46 AD

Gearless motorized driven roller featuring integrated drive



- **Most powerful motorized driven** roller on the market
- Direct drive technology offers **superior energy saving** compared to conventional technology
- **48 VDC power supply**
- **One model runs** any speed and torque
- The elimination of gears results in an **extremely quiet motor roller**
- **Standard 5 pins - M8 - connector** for ease of use
- **Encoder Feedback** provides precise speed control, with 7168 pulses per revolution.

Based on 15 years of expertise in gearless motorized roller technology, the MTR 46 AD takes performance to the next level. Developed from the proven MTR 46 series, this new version enhances the already remarkable benefits of direct drive technology by integrating an advanced electronic drive.

MTR 46 AD series revolutionized energy efficiency with its gearless design and superior energy savings compared to traditional geared systems. Its direct drive motor optimizes performance and also ensures remarkably quiet operation, making it ideal for noise-sensitive environments. With its ability to cover any speed and torque with a single model, MTR 46 AD simplifies design and reduces inventory needs.

Now, with the MTR 46 AD, we take this innovation even further. The integrated drive enhances control, efficiency, and ease of installation, making this motorized roller the perfect choice for seamless automation.

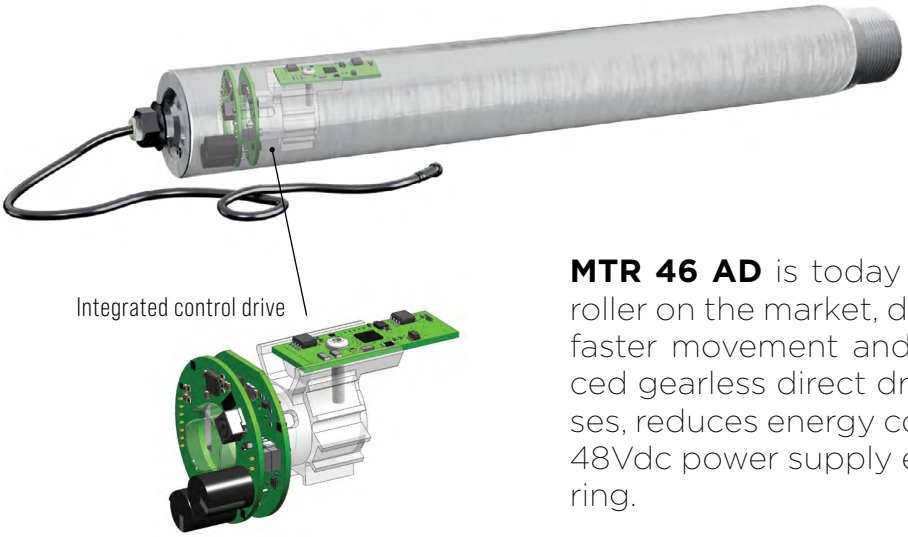
Experience the future of motion technology-streamlined, powerful, and intelligently designed.

Application advantages

Our advanced direct drive technology eliminates the constraints of gearbox ratios, enabling simple torque and speed variations with just one motorized roller model for any conveying application. This innovation simplifies inventory and design while enhancing performance and energy efficiency-key factors for material handling industries striving for optimization and sustainability.

MTR 46 AD

Power, efficiency and innovative design



MTR 46 AD is today the most powerful motorized driven roller on the market, delivering 75W power ratings, enabling faster movement and higher payload capacity. Its advanced gearless direct drive design minimizes mechanical losses, reduces energy costs, and ensures quiet operation. The 48Vdc power supply enhances efficiency and simplifies wiring.

Advanced Control and Connectivity

MTR 46 AD features an encoder with 7168 pulses per revolution for precise speed control.
It supports two interface options: Analog Velocity and CANopen, compatible with DS301/DS402 protocols for Industry 4.0 integration. A standard 5 pin - M8 connector ensures easy connection to automation systems.

Flexible and easy integration

With its gearless design, a single model meets various application needs, simplifying inventory management and maintenance.
The integrated drive reduces wiring and streamline installation. It is available in two versions: a frameless 46 mm cartridge (for 50mm rollers) and a Power Pack solution with a complete 50mm roller.

Technical data

SPECIFICATION	MTR 46.105
STALL TORQUE	1.05 Nm
PEAK TORQUE	3.2 Nm
RATED SPEED	800 RPM (2 m/s)
RATED POWER	75W @ 48Vdc
POWER SUPPLY	24 and 48 Volt
VERSIONS	Cartridge (46mm), Complete Roller (50mm)

» PALLET CONVEYOR MOTOROLLER

Geared solution for driving pallet conveyor application



Pallet Conveyor allows efficient transport, accumulation, lifting and sorting of heavy loads as an alternative to forklifts handling.
In warehouse automation operations a pallet conveyor is generally utilized to move loads of several hundreds kilograms while ensuring continuous feed of work and cutting edge efficiency.
The high-performance synchronous brushless servomotor, coupled with planetary gearbox, ensures performance with loads up to 1500 kg per zone.

- > ROBUST MECHANICAL DESIGN
- > HIGH DYNAMICS
- > EASY CONVEYOR DESIGN
- > THE REPLACEMENT WITH A NEW MOTOROLLER DOES NOT REQUIRE ANY CONFIGURATION ACTION
- > HIGH MTBF
- > HIGH ENERGY SAVING

PALLET CONVEYOR MOTOROLLER

POWER PACK MOTOROLLER 70



MOTOROLLER geared solution for driving pallet conveyor application

Features

» Ready to use pallet conveyor motoroller
» Rated power 265 Watt
» Planetary gear box ratio 1:35
» Tube diameter 70mm
» Conveyor velocity 22,2 m/min (0,37 m/sec)
» Load up to 1500 Kg
» Supply voltage available: 48 Vdc, 230 Vac, 400 Vac

POWER PACK MOTOROLLER 89

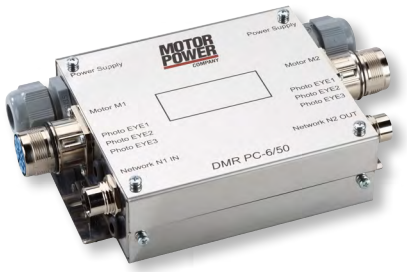


MOTOROLLER geared solution for driving pallet conveyor application

Features

» Ready to use pallet conveyor motoroller
» Rated power 400 Watt
» Planetary gear box ratio 1:45
» Tube diameter 89mm
» Conveyor velocity 16,2 m/min (0,27 m/sec)
» Load up to 1500 Kg
» Supply voltage available: 48 Vdc, 230 Vac, 400 Vac

DRIVE DMR PC 6/50



DMR PC 6/50 drive allows for the perfect match with the Pallet Conveyor Motoroller 70 and 89, ensuring optimal bundling performance

Features

» Dual axes operation
» 48 Vdc operating supply voltage
» Nominal current 6 A
» Peak current 15 A
» Ethercat, Profinet and Ethernet IP Fieldbus
» 3 photoeyes inputs
» Digital I/O

» DISCOVER OUR PRODUCT RANGE

MOTOROLLER FRAMELESS - GEARLESS CARTRIDGE ONLY

MTR FL	46	140	13	H1	D0	XXX
Model		Size	Winding	Feedback	Connection	Optional
1		2	3	4	5	6



1 Model

MTR FL 46
MTR FL 76

2 Size

MTR FL 46	75 - 140
MTR FL 76	100

3 Winding

MTR FL 46	06 (*) - 13 (*) winding 06 for MTR FL 46.75 only
MTR FL 76	14

4 Feedback

H1 Hall Sensor
E1 Incremental encoder ABZ - 3584 cpr

5 Connection

D0 - cable output with connectors

MOTOROLLER POWER PACK - GEARLESS MOTOROLLER WITH TUBE

MTR PP	100	14	H1	D0	01	-	80	-	XXX
Model	Size	Winding	Feedback	Connection	Fixed shaft	Tube type	Tube lenght	Indle shaft	Optional
1	2	3	4	5	6	7	8	9	10



1 Model

MTR PP 46
MTR PP 60
MTR PP 76

2 Size

MTR PP 46	75 - 140
MTR PP 60	150
MTR PP 76	100

3 Winding

MTR PP 46	06 (*) - 13
MTR PP 60	21
MTR PP 76	14

(*) winding 06 for MTR PP 46.75 only

4 Feedback

H1 Hall Sensor
E1 Incremental encoder ABZ - 3584 cpr

5 Connection

D0 - cable output with connectors

6 Fixed shaft

01 - Male tread

7 Tube type(*)

01 - Standard tube
02 - Double grooved tube
04 - Poly-V pulley tube (**)
05 - Double grooved pulley tube
06 - Tapered sleeves tube
07 - Double grooved and tapered sleeves tube
08 - Poly-V and tapered sleeves tube (**)
09 - Double grooved pulley and tapered sleeves tube

(*) for MTR PP 46 only (**) This version is not available for sale in Germany

8 Tube lenght in mm(*) Referral "R" on drawings

(*) For MTR PP 60 lenght is fixed

9 Indle shaft(*)

AA: hex spring loaded
AB: female thread
AC: poly-V hex spring loaded
AD: poly-V thread

(*) for MTR PP 46 only

MOTOROLLER FRAMELESS - GEARLESS CARTRIDGE ONLY

MTR AD FL46	140	13	H1	D0	XXX
Model	Size	Winding	Feedback	Connection	Optional
1	2	3	4	5	6



1 Model

MTR AD FL 46
MTR AD FL 76

2 Size

MTR AD FL 46	75 - 140
MTR AD FL 76	100

3 Winding

MTR AD FL 46	06 (*) - 13
MTR AD FL 76	14

(*) winding 06 for MTR FL 46.75 only

4 Feedback

H1 Hall Sensor
E1 Incremental encoder ABZ - 3584 cpr

5 Connection

D0 - cable output with connectors

DMR 50-5/50 DRIVE TYPE

DMR	50-5/50	E	C	0
Drive Name	Model	Feedback	Fieldbus	Input logic
	1	2	3	4



1	Drive model	50-5/50
2	Feedback	H = Hall sensor E = Incremental encoder
3	Fielbus	C = CANopen
4	Input Logic	0 = PNP input 1 = NPN input

DMR 76-10/65 DRIVE TYPE

DMR	76-10/65	E	P
Drive Name	Model	Feedback	Fieldbus
	1	2	3



1	Drive model	76-10/65
2	Feedback	H = Hall sensor E = Incremental encoder
3	Fielbus	P = Profibus

LITE PRO DRIVE TYPE

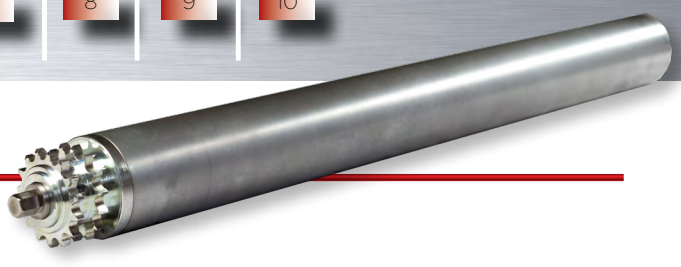
LPRO	E	40	C
Drive Name	Feedback	Model	Fielbus
	1	2	3



1	Feedback	E = Hall sensor and encoder
2	Model (output current) Arms	40 = 8/24
3	Fielbus	C = CANopen

PALLET CONVEYOR MOTOROLLER POWER PACK

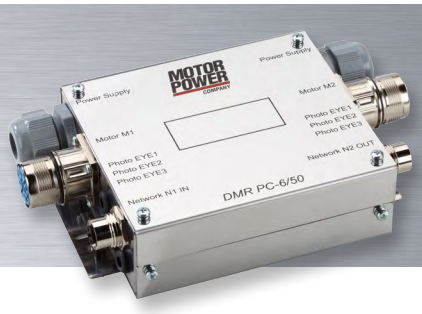
MTR PP	89	045	04	H1	D0	01	01	800	AA	XXX
Model		Size	Winding	Feedback	Connectior	Fixed shaft	Tube type	Tube lenght	Indle shaft	Optional
1		2	3	4	5	6	7	8	9	10



1	Model	**MTR PP 70** **MTR PP 89**	
2	Size	**MTR PP 70** **MTR PP 89**	**045** **045**
3	Winding	**MTR PP 70** **MTR PP 89**	01 - 04 04
4	Feedback	**H1** Hall Sensor	
5	Connection	**D0** = cable output with M15 connectors **D1** = cable output with M23 connectors **D2** = cable output with Harting **A0** = cable output with free wires	
6	Fixed shaft	**01 -** Male tread	
7	Tube type	**01 -** Standard tube	
8	Tube	lenght in mm See drawings reference "R" letter	
9	Indle shaft	**AA:** hex spring loaded **AB:** female thread	
10	Optional	**02** brake	

DMR PC 6/50 DRIVE TYPE

DMR	PC6/50	H	E
Drive Name	Model	Feedback	Fieldbus
	1	2	3



1	Drive model	PC 6/50
2	Feedback	H = Hall sensor
3	Fielbus	E = Ethercat E I = Ethernet IP P = Profinet

MOTOROLLER 46 RATINGS AND SPECIFICATIONS

TIME RATING	Continuous	AMBIENT TEMPERATURE	0 to 40 °C
INSULATION CLASS	F	AMBIENT HUMIDITY	5 to 85% (non-condensing)
ENCLOSURE	Totally enclosed. Self-cooled	POLES	28
THERMAL PROTECTION	NTC	UL RECOGNIZED	cURus E468964
CE certified			

			Motoroller 46 75 06	Motoroller 46 75 13	Motoroller 46 140 13
Stall torque	Cn0	Nm	0,74	0,74	1,5
Peak torque	Cpk	Nm	2,2	2,2	4,5
Rated torque	Cn	Nm	0,6	0,6	1,35
Rated working speed	nM	rpm	800	800	800
Rated voltage	Un	Vdc	24	48	48
Maximum working speed @ 24Vdc	nmax	rpm	1000	500	500
Maximum working speed @ 48Vdc	nmax	rpm	1150	1150	1000
Rated output power	Pn	W	50	50	115
Stall current	In0	Arms	3,3	1,63	3,3
Peak current	Ipk	Arms	11	5,71	10,61
Rated current	In	Arms	2,7	1,33	3
Torque constant	Kt	Nm/Arms	0,22	0,45	0,45
Voltage constant	Ke	Vrsm/ Krpm	13,6	27,6	27,6
Phase/phase resistance @25°C	Rff	Ohm	0,77	2,64	1,23
Phase/phase inductance	Lff	mH	1,35	5,4	2,81
Electrical time constant	Te	ms	1,75	2	2,3
Rotor inertia	Jm	Kg cm^2	5	5	6,1
Motor weight	m	Kg	1,96	1,96	2,73
Axial shaft load @800 rpm	Fa	N		110	
Radial shaft load @800 rpm	Fr	N		220 (applied on the rotor's centering)	

MOTOROLLER 46 AD RATINGS AND SPECIFICATIONS

TIME RATING	Continuous	AMBIENT TEMPERATURE	0 to 40 °C
INSULATION CLASS	F	AMBIENT HUMIDITY	5 to 85% (non-condensing)
ENCLOSURE	Totally enclosed. Self-cooled	POLES	28
THERMAL PROTECTION	NTC	INSULATION SYSTEM UL /CSA cURus, DV155J File nr.:E216686	
CE certified			

Motoroller 46 AD 105 29

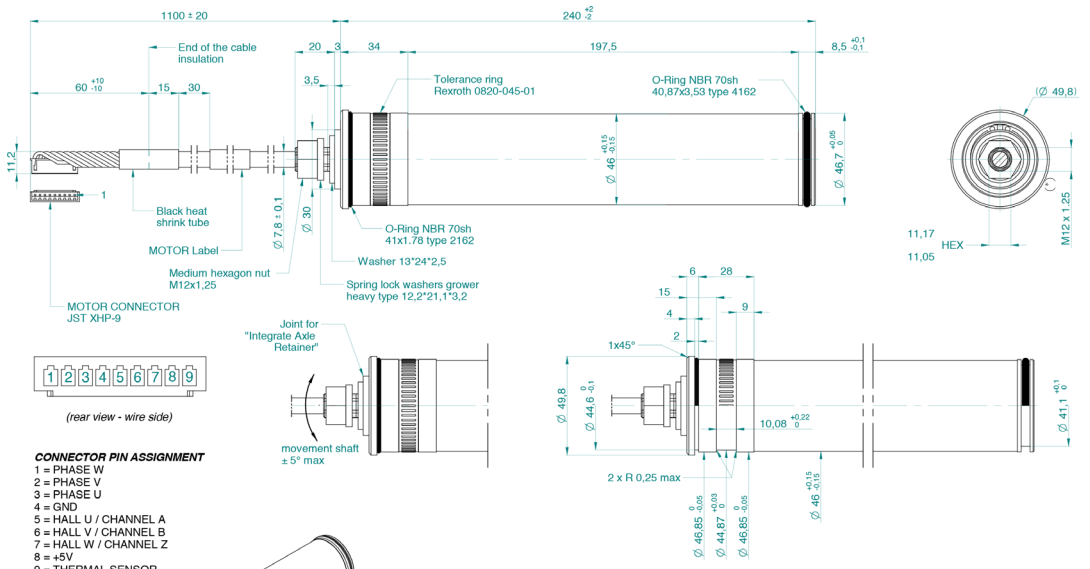
Stall torque	Cn0	Nm	1,0
Peak torque	Cpk	Nm	2,2
Rated torque	Cn	Nm	0,9
Rated working speed	nM	rpm	380
Rated voltage	Un	Vdc	48
Maximum working speed @ 24Vdc	nmax	rpm	1000
Maximum working speed @ 48Vdc	nmax	rpm	1150
Rated output power	Pn	W	35
Stall current	In0	Arms	1,47 - 2,09
Peak current	Ipk	Arms	3,45 - 4,87
Rated current	In	Arms	1,37 - 1,93
Torque constant	Kt	Nm/Arms	0,68
Voltage constant	Ke	Vrsm/ Krpm	41,0
Phase/phase resistance @25°C	Rff	Ohm	3,85
Phase/phase inductance	Lff	mH	8,20
Electrical time constant	Te	ms	2,13
Rotor inertia	Jm	Kg cm^2	4,7
Motor weight	m	Kg	4,4
Axial shaft load @800 rpm	Fa	N	110
Radial shaft load @800 rpm	Fr	N	220 (applied on the rotor's centering)

DRIVE DATA

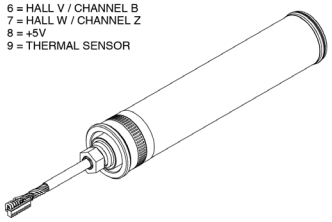
Rated output power	W	50
Efficiency at rated power	%	> 95 %
Operative supply voltage	V	24 ÷ 60
Max voltage	V	80
Rated output current	Arms	2.0
Peak output current (peak time)	Arms (s)	11.0 (3)
Working temperature	°C	-30 ÷ 100

MOTOROLLER 46 FRAMELESS DIMENSIONS

Motoroller 46 75



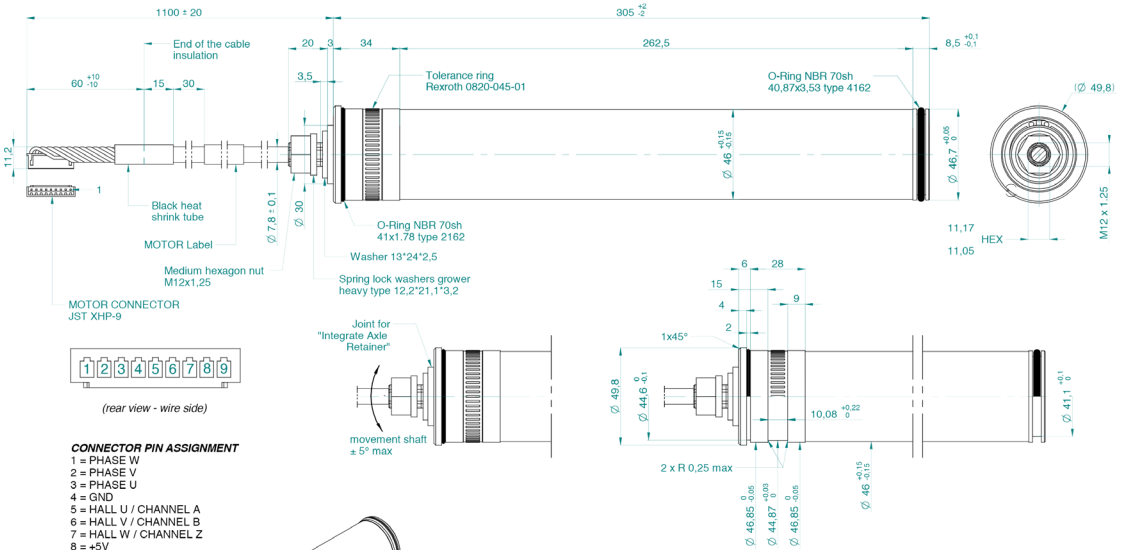
CONNECTOR PIN ASSIGNMENT
1 = PHASE W
2 = PHASE V
3 = PHASE U
4 = GND
5 = HALL U / CHANNEL A
6 = HALL V / CHANNEL B
7 = HALL W / CHANNEL Z
8 = +5V
9 = THERMAL SENSOR



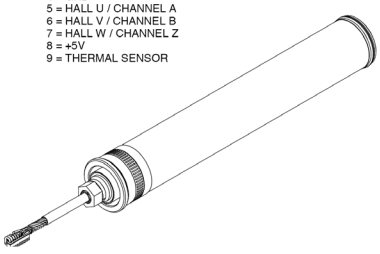
Dimensions in mm

(*) NOTE: maximun fixing torque for M12x1,25 is 30Nm

Motoroller 46 140



CONNECTOR PIN ASSIGNMENT
1 = PHASE W
2 = PHASE V
3 = PHASE U
4 = GND
5 = HALL U / CHANNEL A
6 = HALL V / CHANNEL B
7 = HALL W / CHANNEL Z
8 = +5V
9 = THERMAL SENSOR

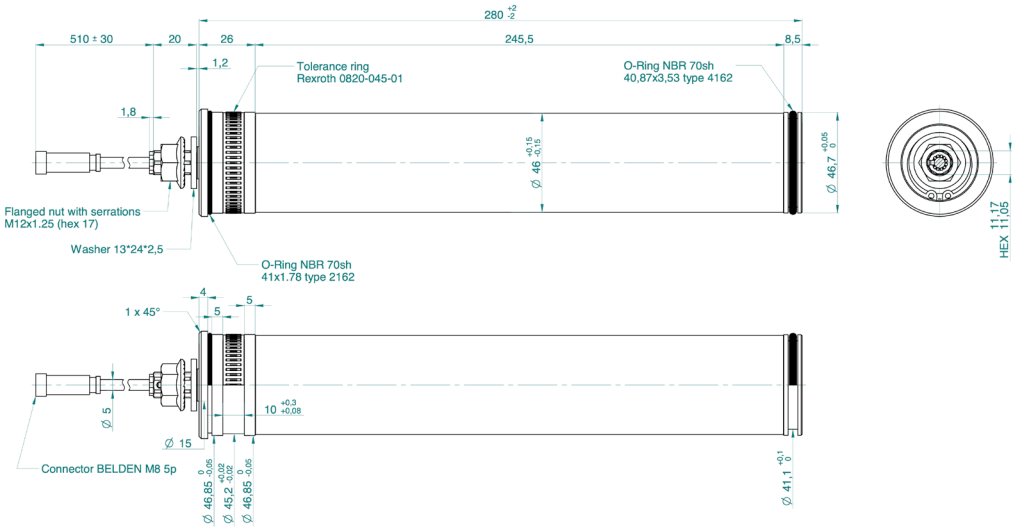


Dimensions in mm

(*) NOTE: maximun fixing torque for M12x1,25 is 30Nm

MOTOROLLER 46 AD FRAMELESS DIMENSIONS

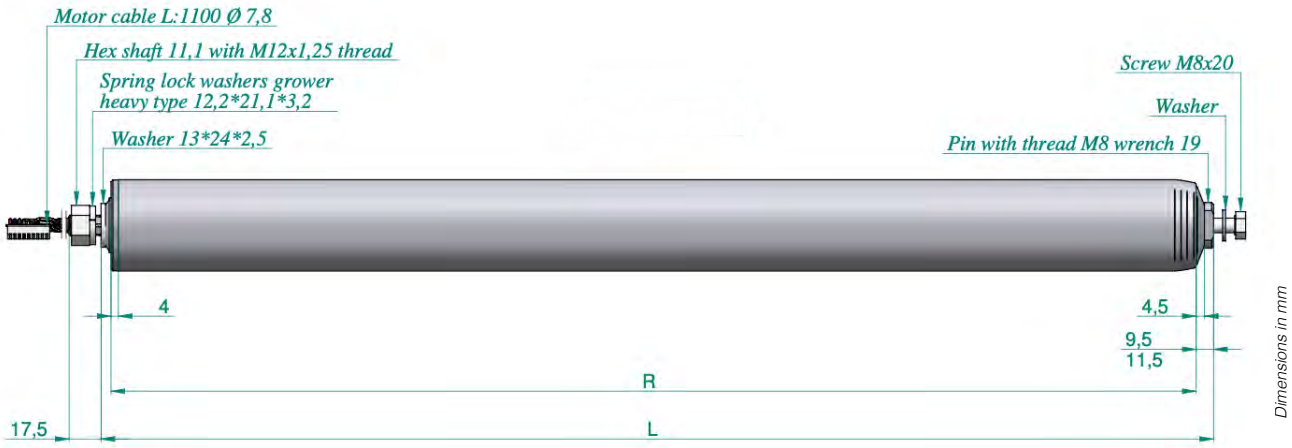
Motoroller 46 AD 105



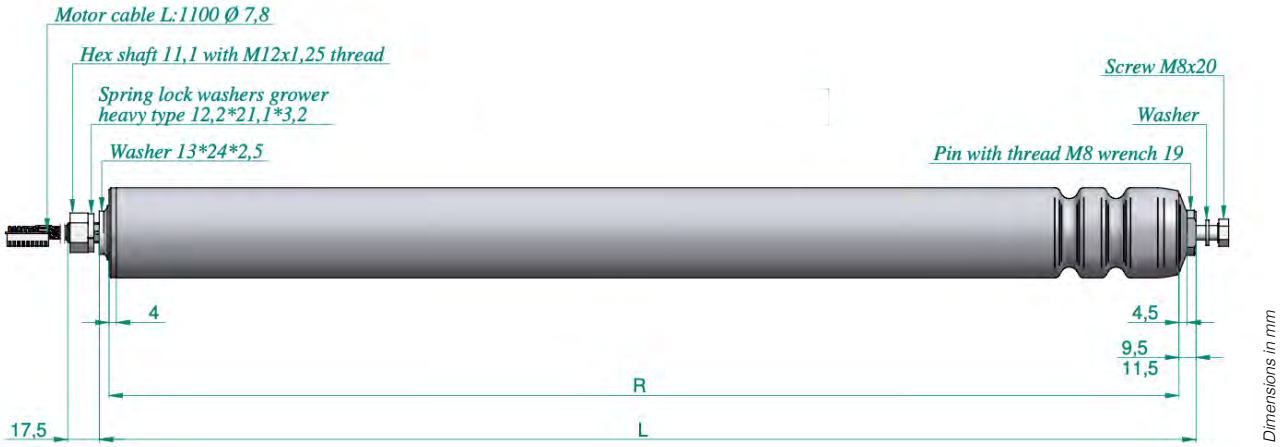
Dimensions in mm

MOTOROLLER 46 AND 46 AD POWER PACK TUBE TYPE

Motoroller 46/46 AD standard tube 01

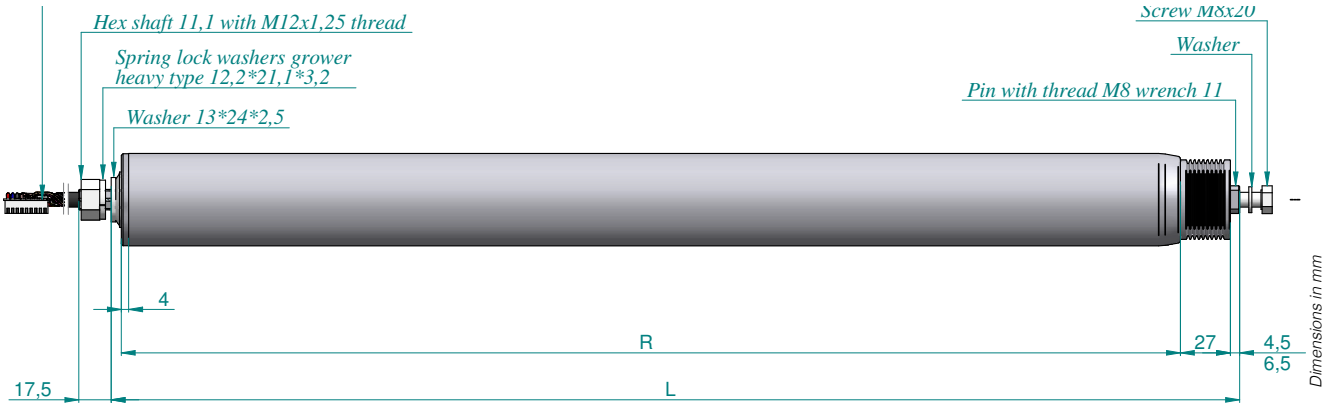


Motoroller 46/46 AD double grooved tube 02



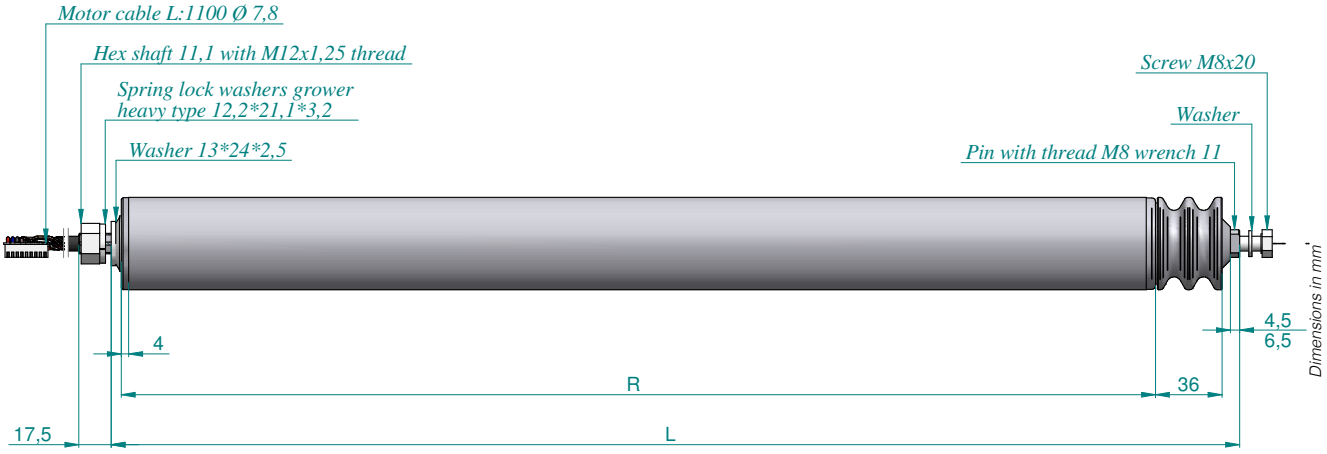
MOTOROLLER 46 AND 46 AD POWER PACK TUBE TYPE

Motoroller 46/46 AD poly-V pulley tube 04 (**)

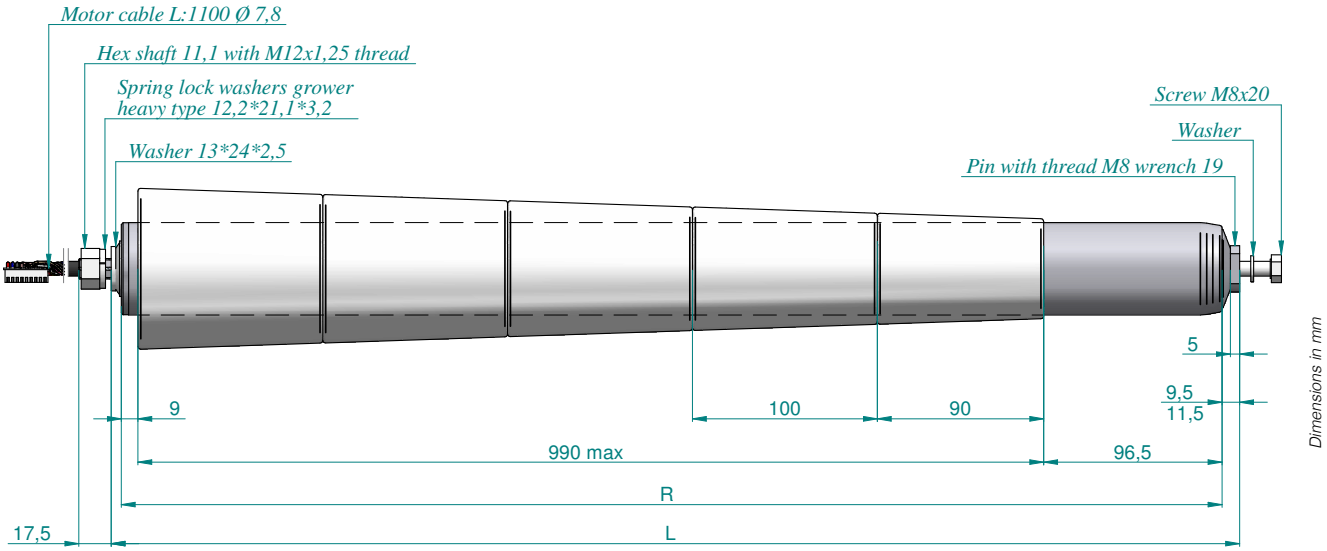


(**) This version is not available for sale in Germany

Motoroller 46/46 AD double grooved pulley tube 05

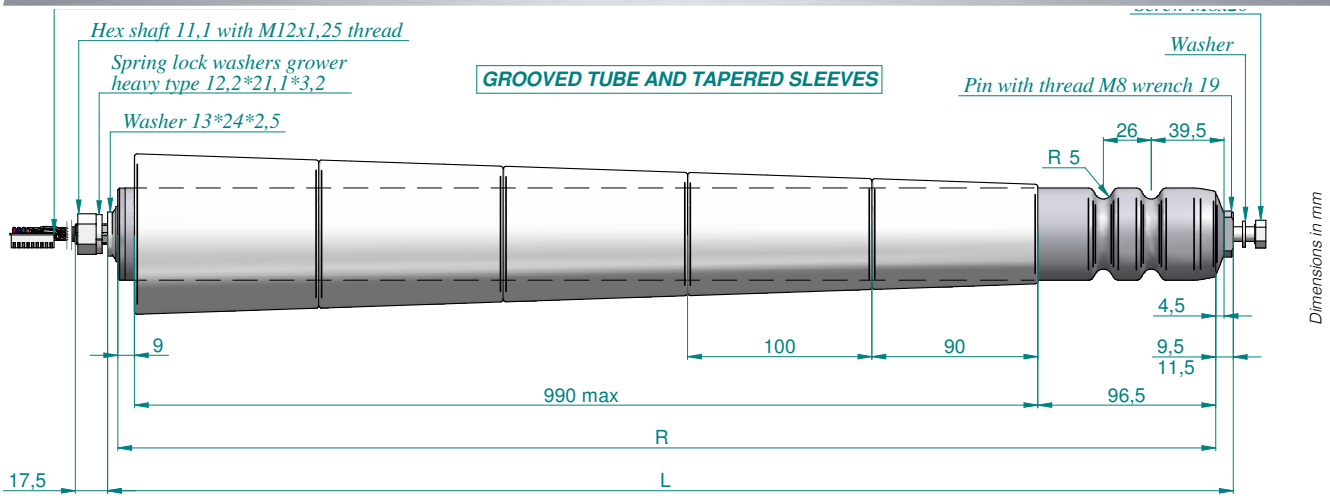


Motoroller 46/46 AD tapered sleeves tube 06



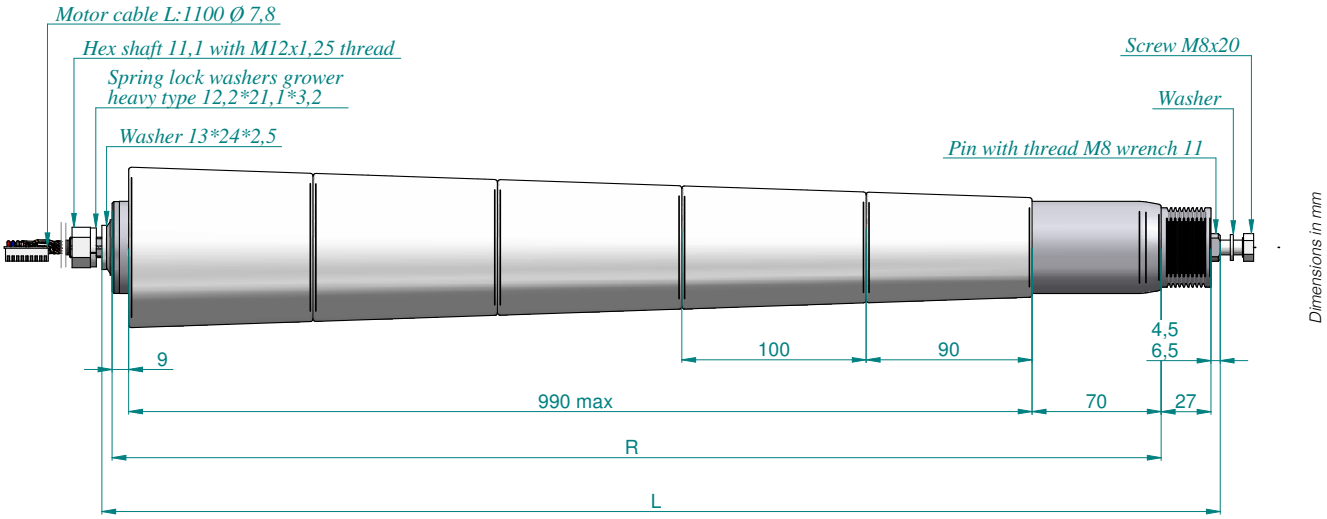
MOTOROLLER 46 AND 46 AD POWER PACK TUBE VERSIONS

Motoroller 46/46 AD double grooved and tapered sleeves tube 07



Dimensions in mm

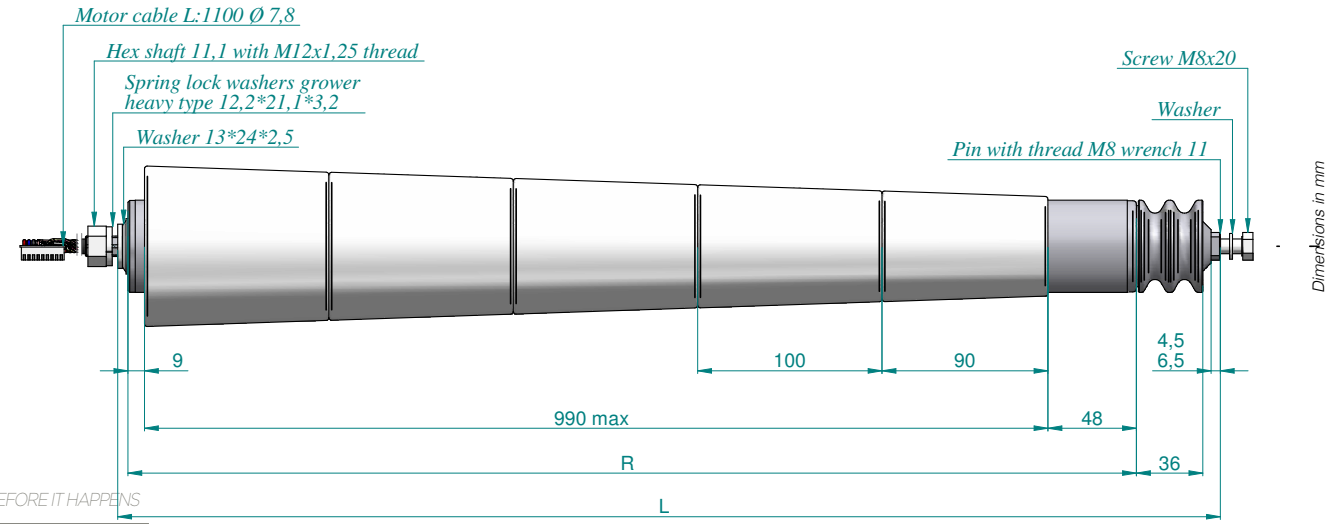
Motoroller 46/46 AD poly-V pulley and tapered sleeves tube 08



Dimensions in mm

(**) This version is not available for sale in Germany

Motoroller 46/46 AD double grooved pulley and tapered sleeves tube 09



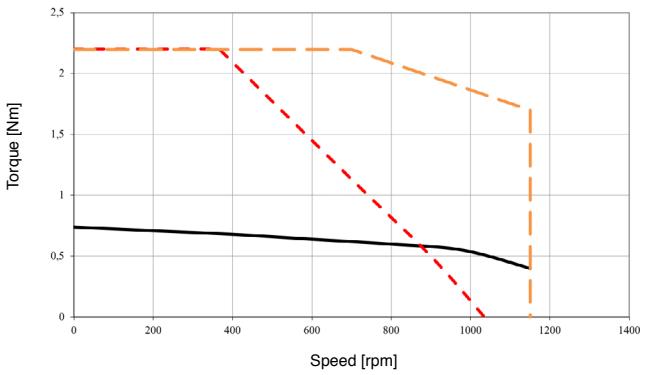
Dimensions in mm

MOTOROLLER 46 TORQUE /SPEED CHARTS

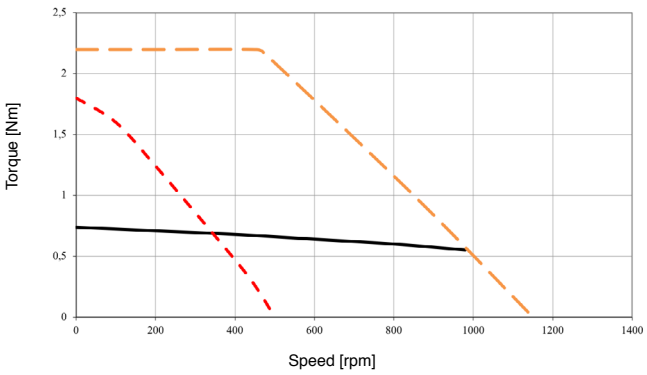
Continuous duty @ rated voltage
24 Vdc
48 Vdc
60 Vdc
65 Vdc
230 Vac



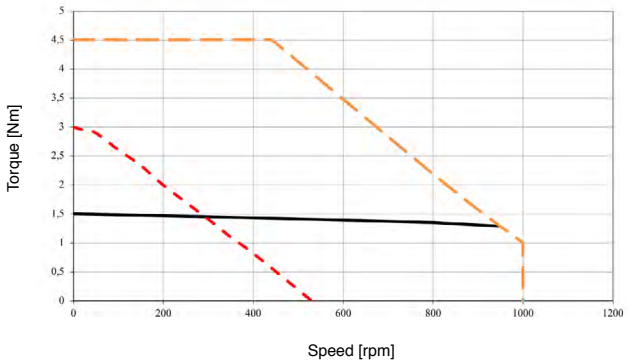
MOTOROLLER 46 75 06



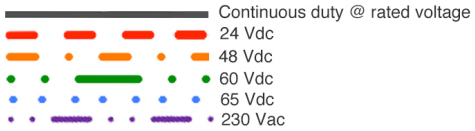
MOTOROLLER 46 75 13



MOTOROLLER 46 140 13

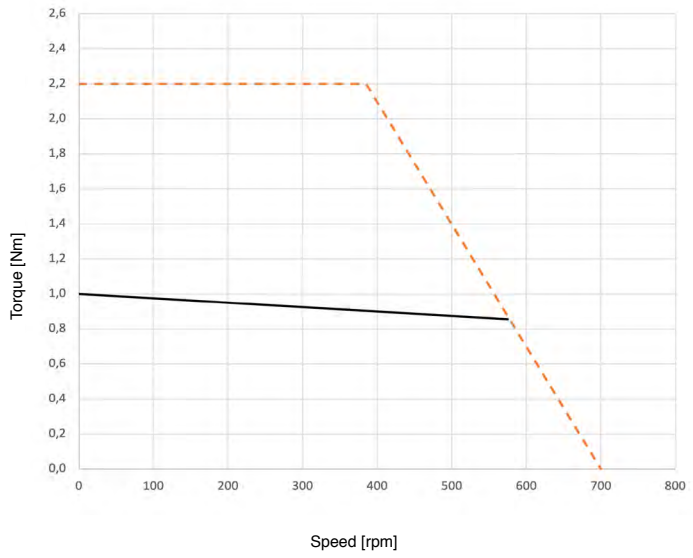


MOTOROLLER 46 AD TORQUE /SPEED CHARTS





MOTOROLLER 46 AD 105



MOTOROLLER 60 RATINGS AND SPECIFICATIONS

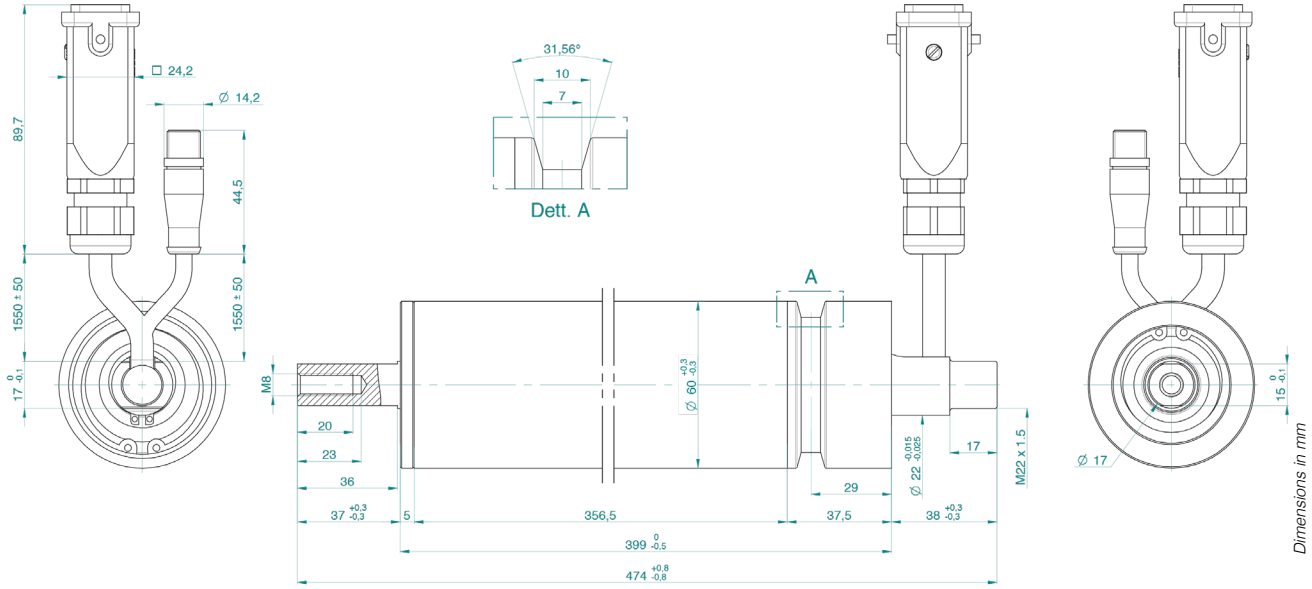
TIME RATING	Continuous	AMBIENT TEMPERATURE	0 to 40 °C
INSULATION CLASS	F	AMBIENT HUMIDITY	5 to 85% (non-condensing)
ENCLOSURE	Totally enclosed. Self-cooled	POLES	28
THERMAL PROTECTION	NTC	UL RECOGNIZED	cURus E468964
CE certified			

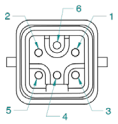
Motoroller 60 150 21

Stall torque	Cn0	Nm	3,2
Peak torque	Cpk	Nm	10
Rated torque	Cn	Nm	2,8
Rated working speed	nM	rpm	800
Rated voltage	Un	Vdc	60
Maximum working speed @ 60Vdc	nmax	rpm	1200
Rated output power	Pn	W	235
Stall current	In0	Arms	7
Peak current	Ipk	Arms	23
Rated current	In	Arms	5,2
Torque constant	Kt	Nm/ Arms	0,53
Voltage constant	Ke	Vrsm/ Krpm	31,8
Phase/phase resistance @25°C	Rff	Ohm	0,5
Phase/phase inductance	Lff	mH	1,8
Electrical time constant	Te	ms	3,6
Rotor inertia	Jm	Kg cm^2	16,8
Motor weight	m	Kg	5,3
Axial shaft load @800 rpm	Fa	N	140
Radial shaft load @800 rpm	Fr	N	600 (applied on the motor's centering)

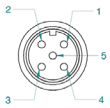
MOTOROLLER 60 POWER PACK DIMENSIONS

Motoroller 60 150

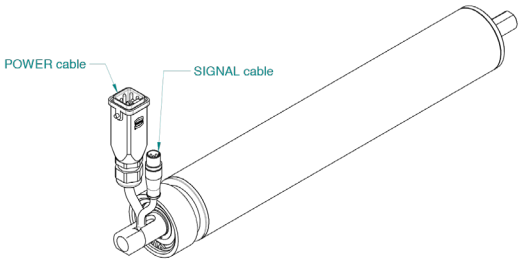




POWER CONNECTOR
HAN Q/0-M-C 6p MS
1 = PHASE U
2 = PHASE V
3 = PHASE W
4 = -
5 = -
6 = PE

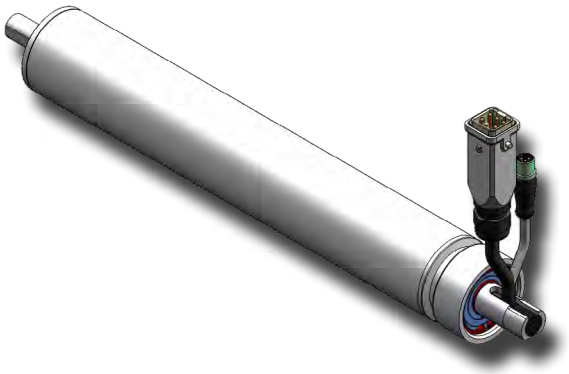


SIGNAL CONNECTOR
M12 5p MS
1 = HALL U
2 = HALL V
3 = HALL W
4 = 5/12 VDC
5 = GND

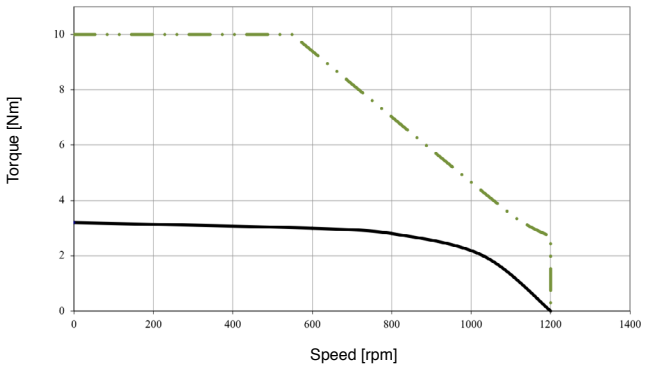


MOTOROLLER 60 TORQUE /SPEED CHARTS

Continuous duty @ rated voltage
24 Vdc
48 Vdc
60 Vdc
65 Vdc
230 Vac



MOTOROLLER 60 150 21



MOTOROLLER 76 RATINGS AND SPECIFICATIONS

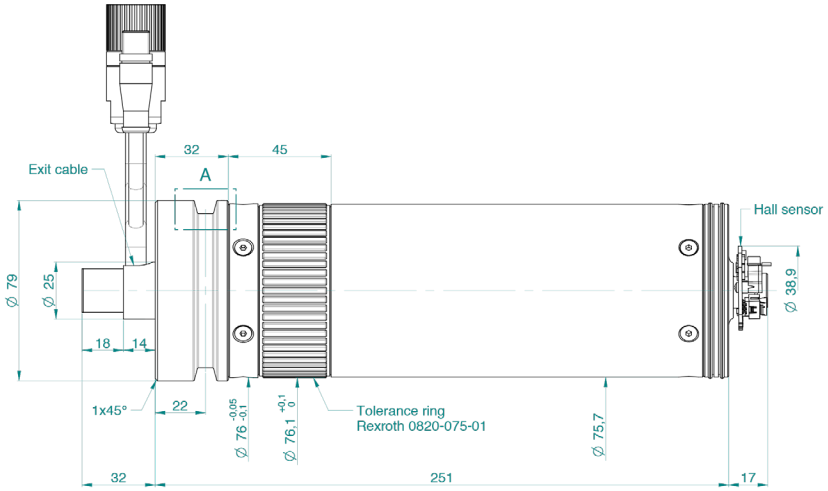
TIME RATING	Continuous	AMBIENT TEMPERATURE	0 to 40 °C
INSULATION CLASS	F	AMBIENT HUMIDITY	5 to 85% (non-condensing)
ENCLOSURE	Totally enclosed. Self-cooled	POLES	28
THERMAL PROTECTION	NTC	UL RECOGNIZED	cURus E468964
CE certified			

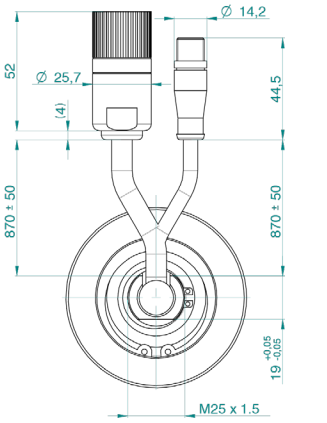
Motoroller 76 100 14

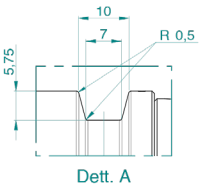
Stall torque	Cn0	Nm	3,6
Peak torque	Cpk	Nm	22
Rated torque	Cn	Nm	3,1
Rated working speed	nM	rpm	800
Rated voltage	Un	Vdc	60
Maximum working speed @ 48Vdc	nmax	rpm	800
Maximum working speed @ 65Vdc	nmax	rpm	1000
Rated output power	Pn	W	260
Stall current	In0	Arms	6,1
Peak current	Ipk	Arms	41
Rated current	In	Arms	5,2
Torque constant	Kt	Nm/ Arms	0,59
Voltage constant	Ke	Vrsm/ Krpm	36
Phase/phase resistance @25°C	Rff	Ohm	0,51
Phase/phase inductance	Lff	mH	0,7
Electrical time constant	Te	ms	1,37
Rotor inertia	Jm	Kg cm^2	23,2
Motor weight	m	Kg	5,1
Axial shaft load @800 rpm	Fa	N	220
Radial shaft load @800 rpm	Fr	N	500 (applied on the rotor's centering)

MOTOROLLER 76 FRAMELESS DIMENSIONS

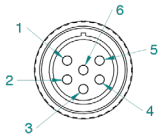
Motoroller 76 100



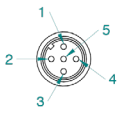




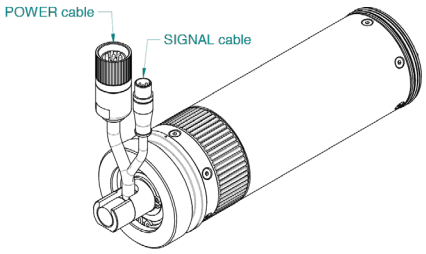
Dimensions in mm



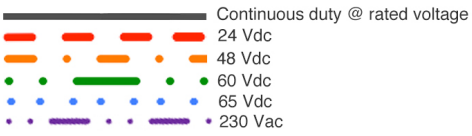
POWER CONNECTOR
Hypertac 6p MS
1 = -
2 = PHASE U
3 = PHASE V
4 = PHASE W
5 = -
6 = PE

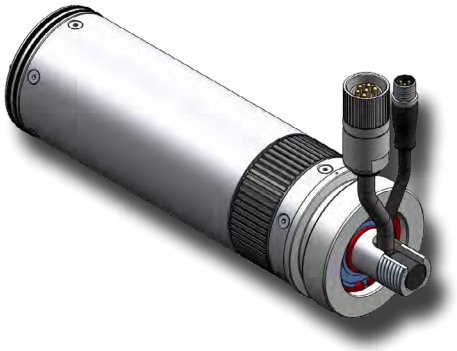


SIGNAL CONNECTOR
M12 5p MS
1 = HALL U
2 = HALL V
3 = HALL W
4 = 5V
5 = GND

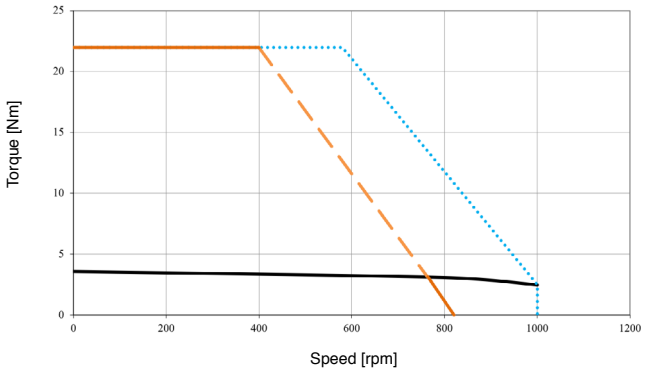


MOTOROLLER 76 TORQUE /SPEED CHARTS





MOTOROLLER 76 100 14



PALLET CONVEYOR MOTOROLLER 70 RATINGS AND SPECIFICATIONS

TIME RATING	S3 1′/2′ (Ton = 1′ / Toff = 2′)	AMBIENT TEMPERATURE	0 to 40 °C
INSULATION CLASS	F	AMBIENT HUMIDITY	5 to 85% (non-condensing)
ENCLOSURE	Totally enclosed. Self-cooled	POLES	8
THERMAL PROTECTION	PT1000	INSULATION SYSTEM UL /CSA cURus, DV155J File nr.:E216686	

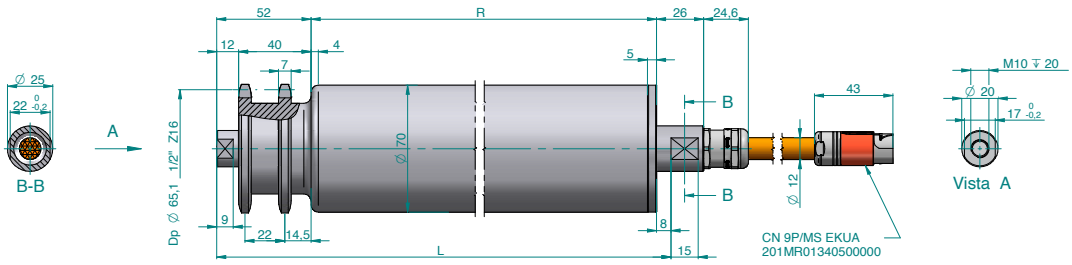
CE certified

			Pallet Conveyor Motoroller 70 045 01	Pallet Conveyor Motoroller 70 045 04
Stall torque*	Cn0	Nm	25	25
Peak torque**	Cpk	Nm	40	40
Rated torque *	Cn	Nm	25	25
Rated working speed @ 24Vdc		m/s	0,26 (70 rpm)	0,12 (32,5 rpm)
Rated working speed @ 48Vdc		m/s	0,37 (101 rpm)	0,24 (65,7 rpm)
Rated output power @ 24Vdc	Pn	W	185	85
Rated output power @ 48Vdc	Pn	W	265	170
Rated voltage	Un		24-48 Vdc	24-48 Vdc
Stall current*	In0	Arms	9,5	4,8
Peak current	Ipk	Arms	14,2	7,2
Rated current*	In	Arms	10,5	5,2
Torque constant	Kt	Nm/Arms	0,094	0,187
Voltage constant	Ke	Vrsm/Krpm	5,7	11,3
Phase/phase resistance @25°C	Rff	Ohm	0,16	0,67
Phase/phase inductance	Lff	mH	0,48	2,1
Electrical time constant	Te	ms	3,0	3,1
Rotor inertia	Jm	Kg cm²	0,300	0,300
Axial load @76 rpm	Fa	N	350 (applied on the rotor's middle)	350 (applied on the rotor's middle)
Radial shaft load @76 rpm	Fr	N	1500 (distributed on the rotor)	1500 (distributed on the rotor)

* Rating perfomances@ 20°C ** Peak torque max duration : 2s

PALLET CONVEYOR MOTOROLLER 70 DIMENSIONS - type 01

Pallet Conveyor Motoroller 70 045 power pack reference drawing 01



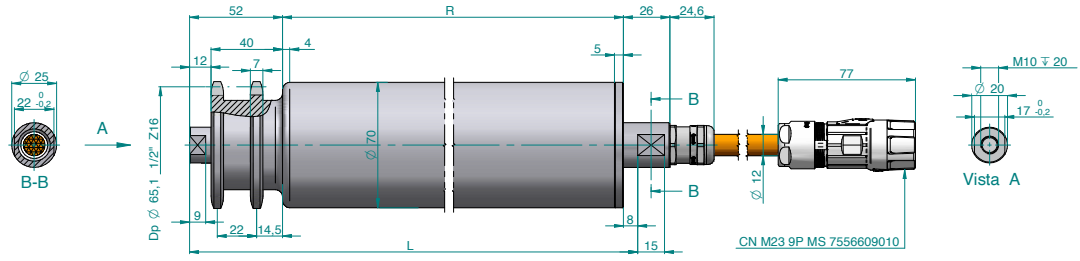
Dimensions in mm

(R) different length available on request

CONNECTIONS

POLE NR.	COLOR	FUNCTION
1	Brown/Green	+5V
2	White/Green	GND
2	Gray	Hall U
4	Pink	Hall W
5	Yellow	Hall V
A	Blue	Phase U
B	Brown	Phase W
C	Black	Phase V
PE	Green/Yellow	Earth/PE

Pallet Conveyor Motoroller 70 045 power pack reference drawing 02



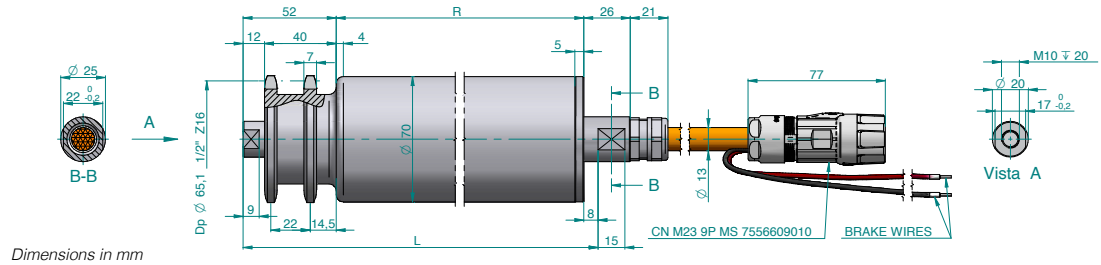
Dimensions in mm

(R) different length available on request

CONNECTIONS

POLE NR.	COLOR	FUNCTION
1	Brown/Green	+5V
2	White/Green	GND
2	Gray	Hall U
4	Pink	Hall W
5	Yellow	Hall V
A	Blue	Phase U
B	Brown	Phase W
C	Black	Phase V
PE	Green/Yellow	Earth/PE

Pallet Conveyor Motoroller 70 045 power pack reference drawing 03



Dimensions in mm

(R) different length available on request

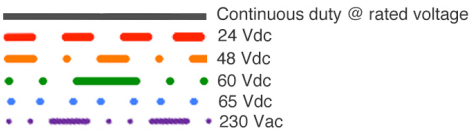
CONNECTIONS

POLE NR.	COLOR	FUNCTION
1	Brown/Green	+5V
2	White/Green	GND
2	Gray	Hall U
4	Pink	Hall W
5	Yellow	Hall V
A	Blue	Phase U
B	Brown	Phase W
C	Black	Phase V
PE	Green/Yellow	Earth/PE

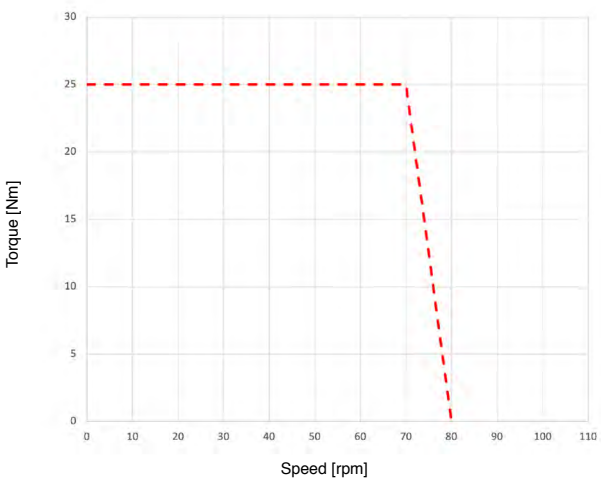
BRAKE WIRES

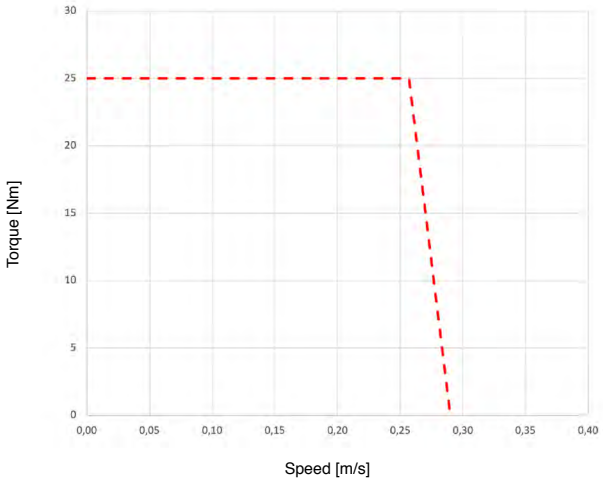
COLOR	FUNCTION
Red	Brake +
Black	Brake -

PALLET CONVEYOR 70 045 TORQUE/SPEED CHARTS

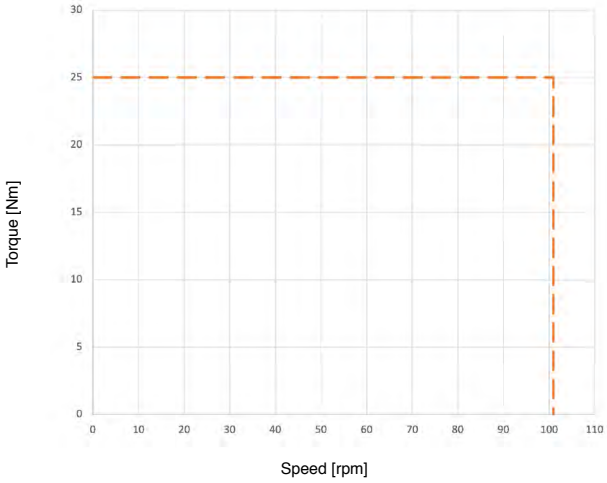


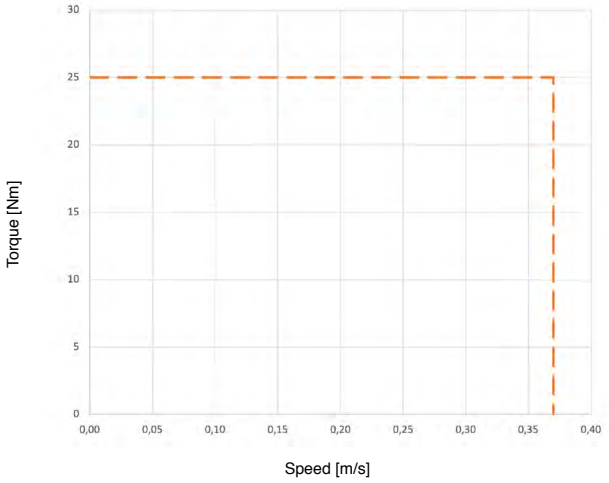
MOTOROLLER 70 045 01 — 24Vdc





MOTOROLLER 70 045 01 — 48Vdc

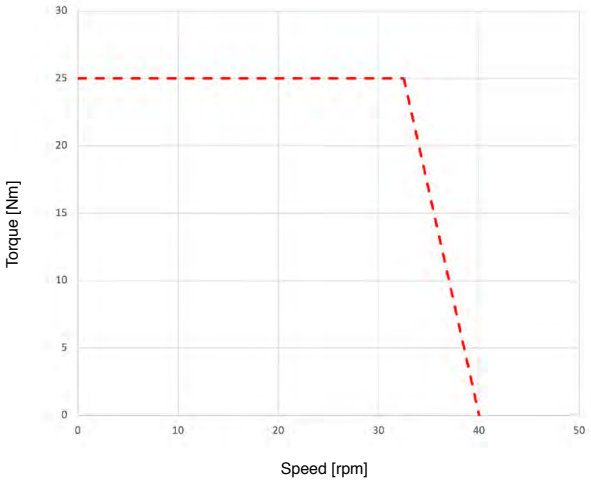


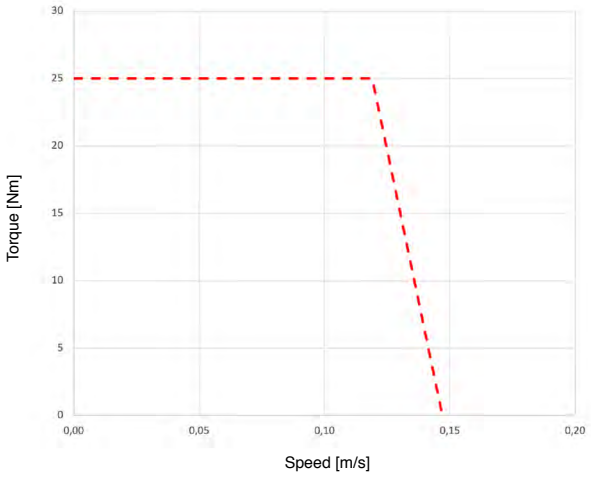


PALLET CONVEYOR 70 045 TORQUE/SPEED CHARTS

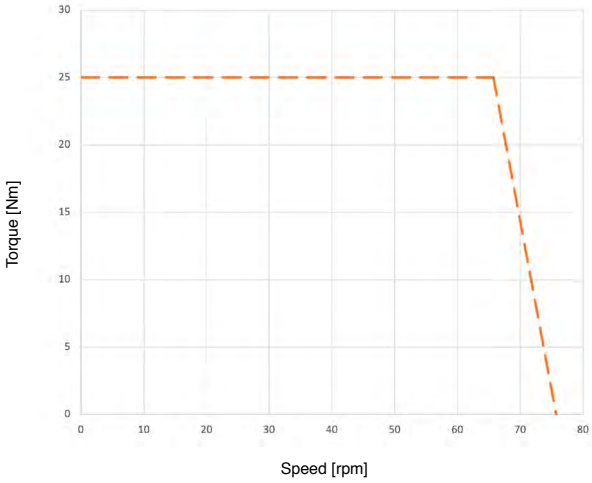
Continuous duty @ rated voltage
24 Vdc
48 Vdc
60 Vdc
65 Vdc
230 Vac

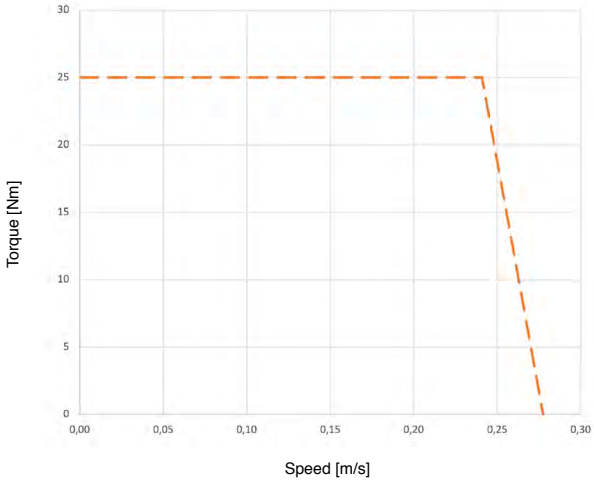
MOTOROLLER 70 045 04 — 24Vdc





MOTOROLLER 70 045 04 — 48Vdc





PALLET CONVEYOR MOTOROLLER 89 RATINGS AND SPECIFICATIONS

TIME RATING	S3 1'/2' (Ton = 1' / Toff = 2')	AMBIENT TEMPERATURE	0 to 40 °C
INSULATION CLASS	F	AMBIENT HUMIDITY	5 to 85% (non-condensing)
ENCLOSURE	Totally enclosed. Self-cooled	POLES	8
THERMAL PROTECTION	PT1000	INSULATION SYSTEM UL /CSA	cURus, DV155J File nr.:E216686CE

CE certified

			Pallet Conveyor Motoroller 89 045 04
Gear ratio			51:1
Stall torque*	Cn0	Nm	73
Peak torque**	Cpk	Nm	120
Rated torque *	Cn	Nm	62,5
Rated working speed		m/s	0,21 (44,4 rpm)
Rated output power	Pn	W	290
Rated voltage	Un		48 Vdc
Stall current*	In0	Arms	8,8
Peak current	Ipk	Arms	15
Rated current*	In	Arms	8,4
Torque constant	Kt	Nm/Arms	0,187
Voltage constant	Ke	Vrsm/ Krpm	11,3
Phase/phase resistance @25°C	Rff	Ohm	0,64
Phase/phase inductance	Lff	mH	1,8
Electrical time constant	Te	ms	2,8
Rotor inertia	Jm	Kg cm^2	0,526
Axial load @80 rpm	Fa	N	240 (applied on the rotor's middle)
Radial shaft load @80 rpm	Fr	N	3800 (applied on the rotor's middle)

* Rating perfomances@ 20°C ** Peak torque max duration : 2s

PALLET CONVEYOR MOTOROLLER 89 DIMENSIONS - type 01

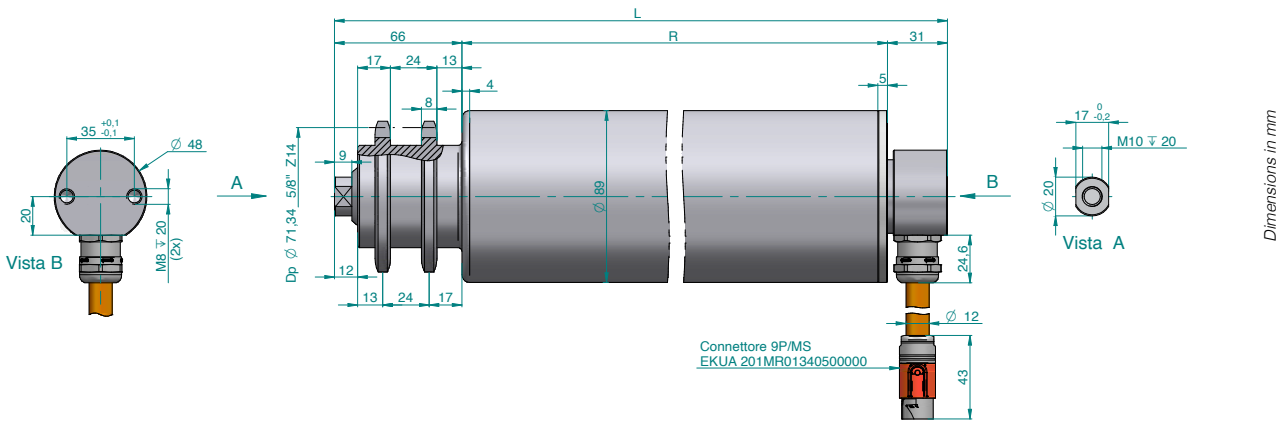


MTR 89 045 - TYPE 01

R	922 mm
L*	1000 mm
Weight	22,5 Kg

(*) different length available on request

Pallet Conveyor Motoroller 89 045 power pack reference drawing 01



(R) different length available on request

CONNECTIONS

N° PIN	WIRE COLOR	FUNCTION
1	Bn/Gn	+5V
2	Wh/Gn	GND
3	Gray	HALL U
4	Pink	HALL W
5	Yellow	HALL V
A	Blue	Phase U
B	Brown	Phase W
C	Bk	Phase V
PE	Gn/Ye	Earth/PE

PALLET CONVEYOR MOTOROLLER 89 DIMENSIONS - type 02

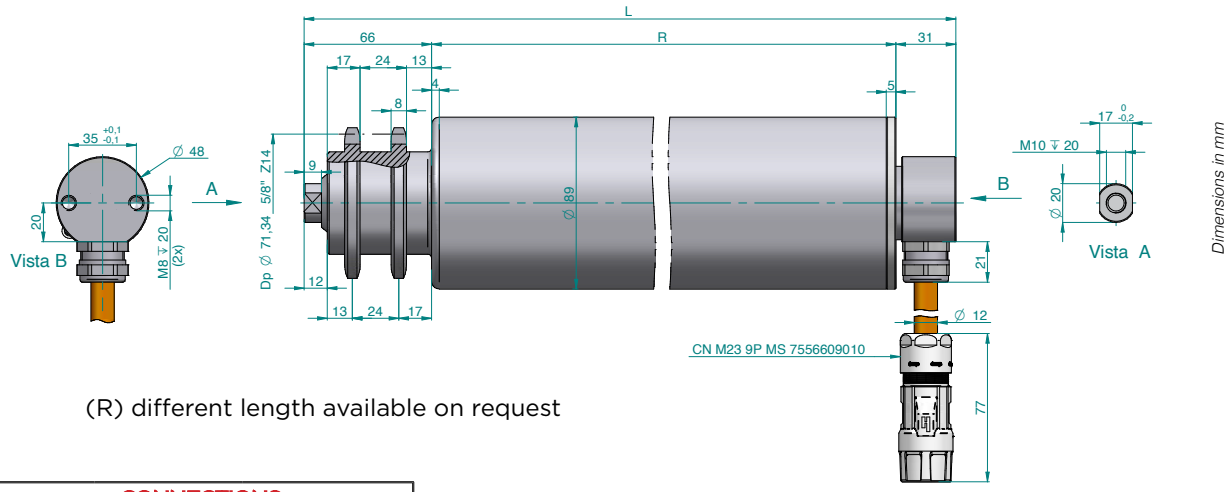


MTR 089 45 - TYPE 02

R	898 mm
L*	960 mm
Weight	22,4 Kg

*different length available on request

Pallet Conveyor Motoroller 89 045 power pack reference drawing 02



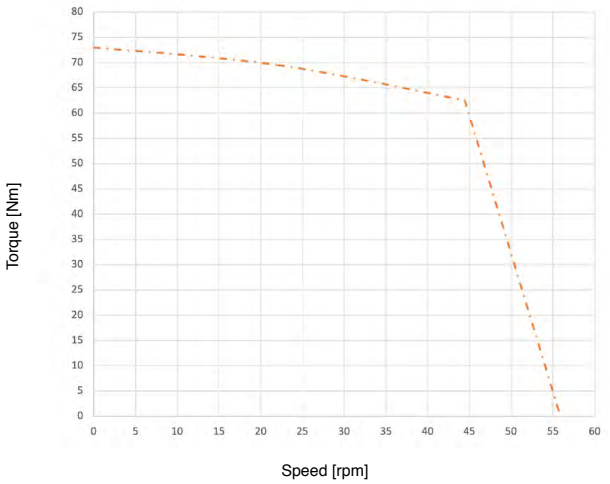
(R) different length available on request

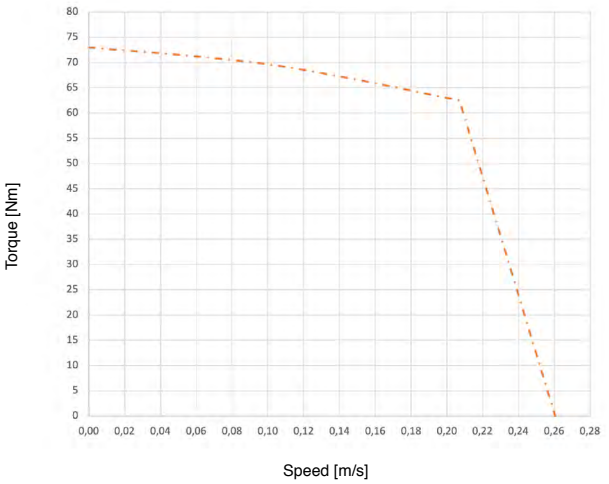
CONNECTIONS		
N° PIN	WIRE COLOR	FUNCTION
E	Bn/Gn	+5V
F	Wh/Gn	GND
G	Gray	HALL U
H	Pink	HALL W
L	Yellow	HALL V
A	Blue	Phase U
B	Brown	Phase W
C	Bk	Phase V
PE	Gn/Ye	Earth/PE

PALLET CONVEYOR MOTOROLLER 89
TORQUE /SPEED CHARTS

Continuous duty @ rated voltage
24 Vdc
48 Vdc
60 Vdc
65 Vdc
230 Vac

MOTOROLLER 89 045 04 48Vdc





FEEDBACK FEATURES

H1 HALL SENSOR

Motor size		Motoroller 46 -60- 76
Nominal Voltage	V	5-9 ±5%
Nominal current	mA	100
Electronic type		OPEN COLLECTOR
N° of pulses revolution	ppr	84

E1 INCREMENTAL ENCODER

Motor size		Motoroller 46 -60- 76
Nominal Voltage	Vdc	5-9 ±5%
Nominal current	mA	100
Electronic type		OPEN COLLECTOR
Zero impulse		ONE AT A LAP
N° of pulses revolution	ppr	896
Resolution	cpr	3584

PERFECTLY MATCHED DRIVES:

MAXIMIZING PERFORMANCE AND EFFICIENCY

DMR SERVO DRIVES

The DMR series is a series of customized drives dedicated to logistic automation market.
The series features two models: DMR 50-5/50, DMR76-10/65 and DMR PC 6/50, designed and manufactured for driving gearless motorollers, exploiting its technological advantages based on direct drive without any gear for motion transmission.

DMR 50-5/50 FEATURES

- > DUAL AXES OPERATION CAPABILITY
- > PERFECT MATCH WITH GEARLESS MOTOROLLER MTR46
- > I/O PROGRAMMABILITY
- > FUSE PROTECTION
- > CROSSBELT FUNCTIONALITY
- > CONVEYOR FUNCTIONALITY
- > SPEED AND ACCELERATION PROGRAMMABILITY
- > HALL SENSOR AND ENCODER FEEDBACK
- > DMR BROWSER SOFTWARE INTERFACE
- > RS 485 PROGRAMMING INTERFACE
- > CAN OPEN FIELDBUS
- > PHOTO EYE SUPPORT
- > 2 INPUT, 2 OUTPUT RELAY EACH AXIS

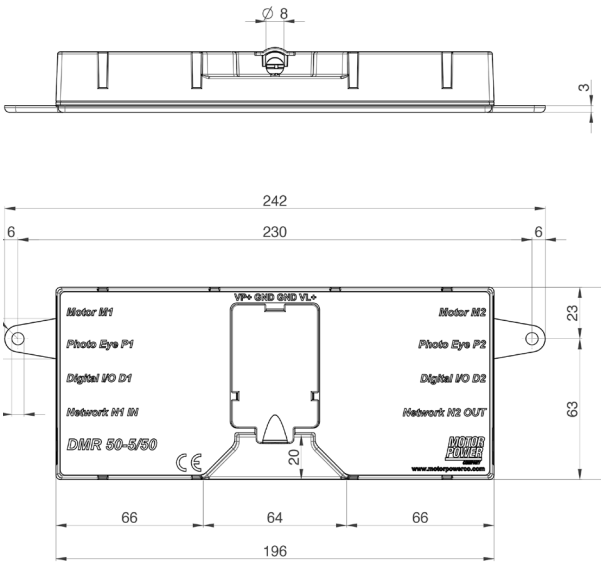
CE

CANopen

DMR 50-5/50 PRODUCT DATA

FEATURE	UNITS	DMR 50-5/50
Rated output power	W	180 each axis
Efficiency at rated power	%	>95
Operating supply voltage	Vdc	12-60
Typical supply voltage	Vdc	48
Maximum operating voltage	Vdc	80
Auxiliary supply voltage		24 V (8-30)
Rated output current	Arms	5
Peak output current	Arms	15
Peak time	s	3
PWM switching frequency	kHz	16 kHz
Maximum outputfrequency	Hz	<600
Commutation		Sinusoidal and space vector
Dimensions	WxDxH mm	196x70x27
Working temperature	°C	-20 ÷ +55
Storage temperature	°C	-40 ÷ +75
Humidity	%	85% not consdensing
Altitude without derating	m	1000
IP protection	IP	20

DMR 50-5/50 PRODUCT DIMENSIONS





Dimensions in mm

DMR 50-5/50 PRODUCT DATA

MOTOR CONNECTION

PIN	NAME
1	Phase U
2	Phase V
3	Phase W
4	Thermal sensor
5	Power supply 5V
6	0V
7	Hall U/Inc A
8	Hall V/Inc B
9	Hall W/Inc Z

PHOTO EYE INPUT

PIN	NAME
1	24V
2	GND
3	Photo eye input

POWER CONNECTION

PIN	NAME
1	24V logic
2	0 V
3	48 V power

I/O DEFINITION

PIN	DIRECTION	FUNCTION
1	Input	Enable
2	Input	Dir
3	Input	Analogf Input
4	Output	Fault
5	Output	Configurable

DMR SERVO DRIVES

DMR 76-10/65 HP is a digital drive for motorollers in cross belt applications. Main features of this drive are current digital control achieved with the technique of vector space and updated with a 10 kHz frequency. Speed digital loop with proportional-integral compensator updated with 10 kHz frequency. Position digital loop with proportional compensator and handling of dead zone updated with 10 kHz frequency. Digital Profibus interface for connecting to supervisor PLC. Motor feedback interface via Hall sensors.

DMR 76-10/65 FEATURES

- > THE PERFECT MATCHED DRIVE FOR GEARLESS MOTOROLLER MTR 76
- > USB PROGRAMMING INTERFACE
- > PROFIBUS FIELBUS DP V1
- > I/0 PROGRAMMABILITY
- > I/0 PROXY DUAL LOOP
- > DMR BROWSER SOFTWARE INTERFACE
- > FUSE PROTECTION
- > CROSSBELT FUNCTIONALITY
- > SPEED AND ACCELERATION PROGRAMMABILITY
- > HALL SENSOR AND ENDECODER FEEDBACK
- > 2 INPUT, 2 OUTPUT RELAY

CE

PROFIBUS

DMR 76-10/65 PRODUCT DATA

FEATURE	UNITS	DMR 76-10/65
Rated output power	W	650
Efficiency at rated power	%	>95
Operating supply voltage	Vdc	24-80
Typical supply voltage	Vdc	48-65
Maximum operating voltage	Vdc	85
Auxiliary supply voltage		-
Rated output current	Arms	10
Peak output current	Arms	50
Peak time	s	0,75 on 20s
PWM switching frequency	kHz	16 kHz
Maximum outputfrequency	Hz	<600
Commutation		Sinusoidal and space vector
Dimensions	WxDxH mm	250x150x45
Working temperature	°C	-20 ÷ +55
Storage temperature	°C	-40 ÷ +75
Humidity	%	85% not consdensing
Altitude without derating	m	1000
IP protection	IP	54 on drive front 40 on the whole drive

DMR 76-10/65

DMR 76-10/65 PRODUCT DATA

HARDWARE AND FIRMWARE CHARACTERISTICS

> ONE ELECTRONIC BOARD FOR CONTROL LOGIC AND POWER

> ONE SUPPLY FOR ELECTRONIC CONTROL AND MOTOR OUTPUT STAGE

> PROFIBUS SLAVE COMMAND INTERFACE WITH DIP SWITCH NODE ADDRESS SELECTION

> USB DEVICE INTERFACE FOR CONFIGURATION AND MAINTENANCE

> CONTROL THROUGH SINUSOISAL ALGORITHM AND HALL SENSOR FEEDBACK

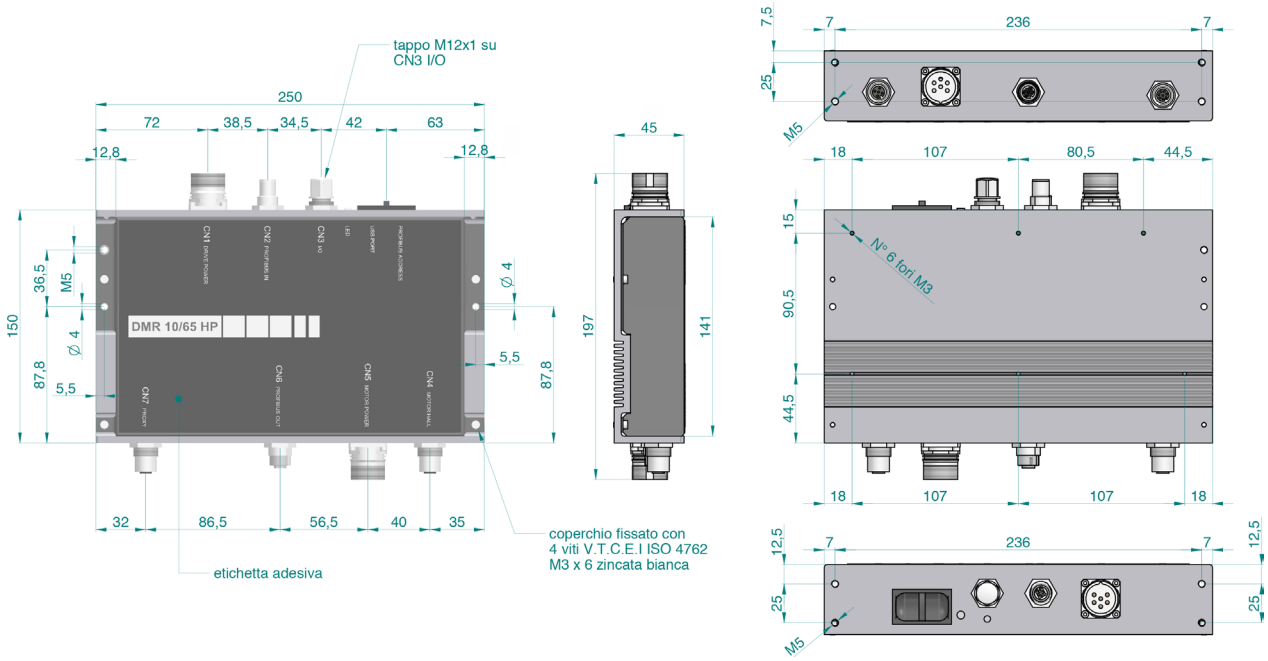
> GENERIC I/O PROGRAMMABILITY

> I/O PROXI PROGRAMMABILITY

INTERFACE

> THIS DRIVE IS EQUIPPED WITH SOFTWARE USER INTERFACE "DMR BROWSER" FOR OPERATING, MONITORING AND SUPERVISION OF THE APPLICATION. REFER TO THE APPROPRIATE MANUAL FOR INSTALLATION INSTRUCTIONS AND USE.

PRODUCT DIMENSIONS



CONNECTION

DRIVE POWER	
PIN	NAME
1	V+
2	-
3	-
4	-
5	V-
6	-

PROFIBUS IN	
PIN	NAME
1	-
2	DATA-/A-LINE
3	-
4	-
5	DATA+/B-LINE

PROFIBUS OUT	
PIN	NAME
1	V+
2	DATA-/A-LINE
3	V_{REF}
4	DATA+/B-LINE
5	-

DIGITAL I/O	
PIN	NAME
1	OUT1 COM
2	INRET 123
3	$+24V_{DC}$
4	OUT1 NC
5	IN1
6	IN2
7	IN3
8	GND (+24 V_{DC})

CONNECTION

MOTOR OUTPUT	
PIN	NAME
1	-
2	U
3	V
4	W
5	-
6	PE

FEEDBACK	
PIN	NAME
1	U/A
2	V/B
3	W/Z
4	$5V_{DC}$
5	GND

PROXY DUAL LOOP	
PIN	NAME
1	$+24V_{DC}$ PROXY
2	INRET 123 PROXY
3	GND ($+24V_{DC}$)
4	OUT2 NO
5	OUT2 NO
6	IN7 PROXY
7	$+24\ V_{DC}$
8	OUT2 COM

LITE PRO SERVO DRIVE

The LITE PRO series is represented by the extremely compact 4-quadrants drives perfect matched to control motoroller 60. This series features as standard CanOpen interface and a complete programmable version with integral Motion Process Unit, that allows stand alone and network architecture operation.

FEATURES

> STANDARD FEEDBACK TTL ENCODER AND HALL SENSOR

> DIGITAL I/O: UP TO 8 DIGITAL INPUTS AND 1 OR 2 DIGITAL OUTPUTS CUSTOMIZIBLE WITH SEVERAL BUILT-IN FUNCTIONS

> CONTROL: STANDARD PI CONTROL LOOP

> SERVO MODES: TORQUE, VELOCITY AND POSITION WITH S-CURVE PROFILE

> INTERNAL SCRIPT

> EXTREME COMPACT DESIGN

> USB PROGRAMMING KEY



INTERFACE

> ANALOG VELOCITY AND TORQUE COMMAND ± 10V

> CANopen

CE

PRODUCT DATA

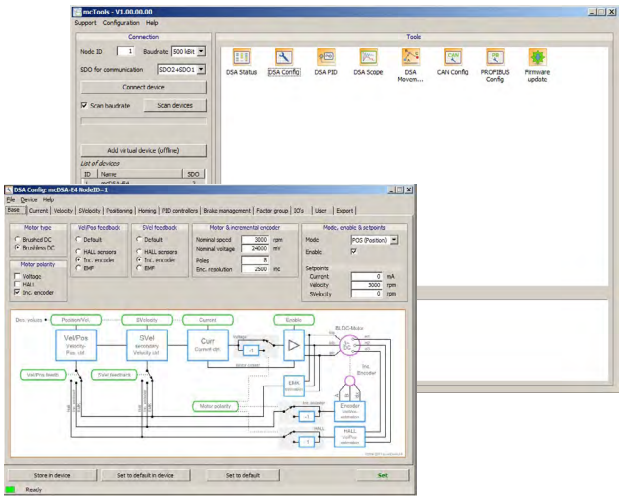
FEATURE	UNITS	LPRO E40
Input voltage	VDC	48
Efficiency at rated power	%	>95
Auxiliary supply voltage	VDC	9 ... 30
Continuous current	Arms	8
Peak current	Arms	24
Ambient operating temperature	°C	0 to + 40°
Maximum humidity	%	5÷85% not condensing
Mounting method		Wall mounting DIN Rail
Dimensions	LxWxH mm	110x22,5x77
Weight	gr	110
Digital IN		4
Digital OUT		1

LITE PRO USER INTERFACE

> EASY AND INTUITIVE PC SOFTWARE ALLOWS A FAST PARAMETERIZATION OF THE LITE PRO

> SIMPLE SCOPE

> SCRIPT EDITING



DMR SERVO DRIVES

Introducing our DMR PC-6/50 Dual Axis Drives - the ideal solution for bundling with Pallet Conveyor Motorollers 70 and 89. This drive is engineered to ensure optimal performance, reliability, and precise control and accuracy in handling large, heavy items, including pallets. Typically used at the end of the line in material handling applications, this drive feature easy and intuitive commissioning for advanced motion control of two motorollers.

DMR PC-6/50 FEATURES

- > DUAL AXES OPERATION CAPABILITY
- > PERFECT MATCH WITH PALLET CONVEYOR 70 AND 89
- > I/O PROGRAMMABILITY
- > SPEED AND ACCELERATION PROGRAMMABILITY
- > HALL SENSOR FEEDBACK
- > DMR BROWSER SOFTWARE INTERFACE
- > PROFINET I/O, ETHERNET IP, (for each axes) ETHERCAT
- > 3 PHOTO EYE SUPPORT FOR EACH AXIS
- > 2 INPUT, 2 OUTPUT
- > 10V ANALOG INPUT

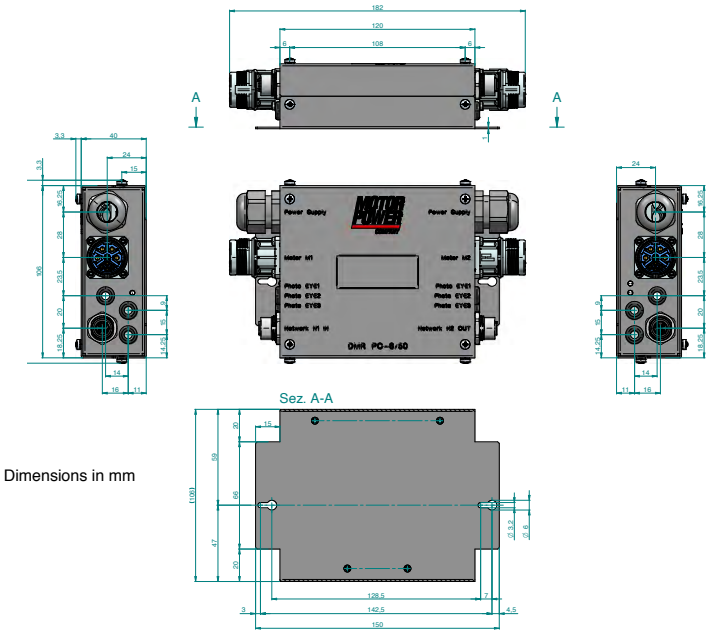
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EtherCAT Technology Group PROFINET EtherNet/IP

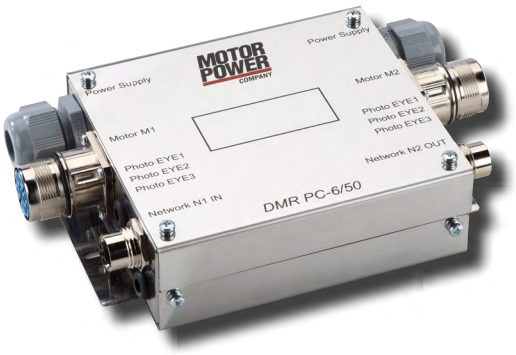
DMR PC 6/50 PRODUCT DATA

FEATURE	UNITS	DMR PC 6/50
Rated output power	W	350 each axis
Efficiency at rated power	%	>95
Operating supply voltage	Vdc	12-60
Typical supply voltage	Vdc	48
Maximum operating voltage	Vdc	80
Auxiliary supply voltage		24 V (8-30)
Rated output current	Arms	6
Peak output current	Arms	20
Peak time	s	3
PWM switching frequency	kHz	16 kHz
Maximum outputfrequency	Hz	<600
Commutation		Sinusoidal and space vector
Dimensions	WxDxH mm	182 x 105 x 45
Working temperature	°C	-20 ÷ +55
Storage temperature	°C	-40 ÷ +75
Humidity	%	85% not consdensing
Altitude without derating	m	1000
IP protection	IP	20

DMR PC-6/50 PRODUCT DIMENSIONS



Dimensions in mm



DMR PC-6/50 PRODUCT DATA

MOTOR CONNECTION

PIN	FUNCTION	DESCRIPTION
1	Feedback Power Supply	5Vdc
2	Gnd	0 Vdc
3	Hu	Hall Sensor u
4	Hv	Hall Sensor v
5	Hw	Hall Sensor w
A	Mu	Motor Phase
B	Mv	Motor Phase
C	Mw	Motor Phase
FE	Functional earth	Functional earth

POWER SUPPLY

PIN	FUNCTION	DESCRIPTION
1	VP+	Power Supply 48Vdc
2	GND	0 Vdc
4	VL+	Logic Supply 24Vdc

PHOTO EYE PG AND INTERNAL CONNECTOR

PIN	FUNCTION	DESCRIPTION
1	Power Supply	24 V power supply
2	Photo Eye Input 1	Input Signal
3	Gnd	0 Vdc
4	Power Supply	24 V power supply
5	Photo Eye Input 2	Input Signal
6	Gnd	0 Vdc
7	Power Supply	24 V power supply
8	Photo Eye Input 3	Input Signal
9	Gnd	0 Vdc

NOTE

NOTE

MOTORS

MOTION CONTROL

MECHATRONICS

Catalogue 3.4/05-25

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