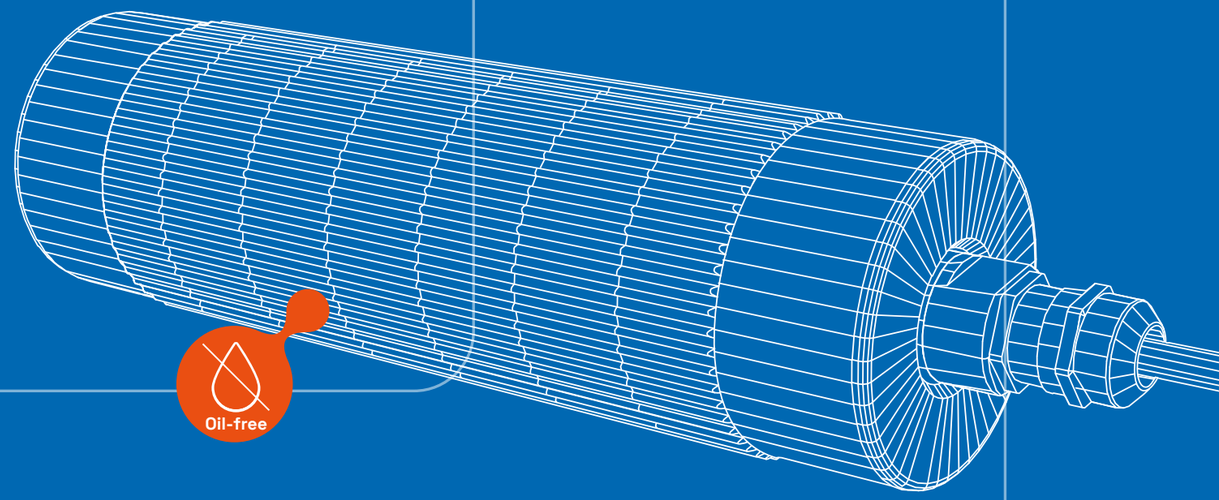
Thanks for your interest

Go to ngi-global.com/drivetech-division



Synchronous drum motors

NGI A/S
Virkelyst 5
DK-9400 Nørresundby
T: +45 98 17 45 00
E: ngi@ngi-global.com

NGI Italy
Via Guglielmo Jervis 4
IT-10015 IVREA TO
T: +39 077 568 7010
E: ngi@ngi-global.com

NGI Inc. USA
805 Satellite Blvd
Suwanee, GA 30024, USA
T: +1 (646) 201 9410
E: sales@ngi-global.com

NGI GmbH
Ottostraße 15b
DE-41836 Hückelhoven-Baal
T: +49 (0) 2433 96 422 90
E: drivetech@ngi-global.com

ngi-global.com

Name change:

From Momentum Technologies to NGI

In 2022, Momentum Technologies became a part of NGI, a great match between two companies with strong focus on developing and delivering innovative solutions to the growing needs of customers globally through in-depth experience and knowledge network.

Momentum Technologies® = NGI®

To best continue our effort towards strengthen our promises to our highly valued customers and partners, we have made the decision to rebrand Momentum Technologies to NGI effective from February 2024.

> Jan Nygaard, CEO at NGI states: "Our solutions will be consolidated under the separate division NGI DriveTech which we established last year, enabling us to best continue delivering our expertise and innovations to the market."

> Gerhard Froebus, Founder of Momentum Technologies affirms: "I am excited that we are fueling our efforts with leading innovation and expertise by finding exhaustive and holistic solutions based on in-depth experience and knowledge network from which our customers benefit."

To drive and support this new business unit, we have appointed Theis Philip Jensen as the President of DriveTech. Over the past few months, we have expanded our teams in R&D, application engineering, technical sales, and other areas to ensure we are well-re-sourced to service and advise our customers on value-adding solutions and hygiene-optimized drum motors.

> Theis says: "We are looking forward to continuing making a difference and ensure improved food-safety, lower energy consumption and higher motor efficiency. These are critical parameters for our customers, and we're excited about how well our solutions and approach meet our customers' needs."

Jan Nygaard, Gerhard Froebus, Theis Philip Jensen
NGI GmbH
February 2024

Gerhard Froebus, Founder of Momentum Technology (left), and Jan Nygaard, CEO of NGI A/S (right).

President of NGI's DriveTech Division, Theis Philip Jensen.

Watch video online explaining our synchronous drum motors

The video explains our synchronous drum motors and how they can help improve the hygiene and efficiency of your equipment and machines.

Scan the code and see it at our website www.ngi-global.com

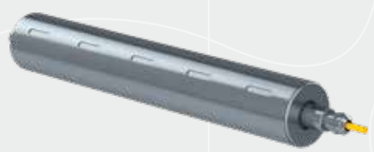
Table of content

General introduction of our synchonous drum motors

Find cable and feedback options on page 41

MTS82-0,19 Compact

Special Features		
Diameter:	mm	81
Gear ratio:		5 - 40
Rotational Speed:	RPM	75 - 600
Linear Speed:	m/s	0,32 - 2,54
Torque:	Nm	2,9 - 23
Power:	kW	0,19
Min. shell length:	mm	193 - 222



MTS82

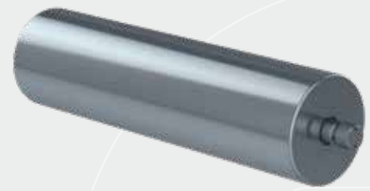
Special Features		
Diameter:	mm	81
Gear ratio:		5 - 160
Rotational Speed:	RPM	19 - 600
Linear Speed:	m/s	0,08 - 2,54
Torque:	Nm	2,9 - 44
Power:	kW	0,19 / 0,38
Min. shell length:	mm	260 - 320

MTS113

Special Features		
Diameter:	mm	112
Gear ratio:		8 - 160
Rotational Speed:	RPM	19 - 375
Linear Speed:	m/s	0,11 - 2,20
Torque:	Nm	4,7 - 44
Power:	kW	0,19 / 0,38 / 0,72 / 1,01
Min. shell length:	mm	260 - 350

MTS115

Special Features		
Diameter:	mm	112
Gear ratio:		10 - 160
Rotational Speed:	RPM	19 - 300
Linear Speed:	m/s	0,11 - 1,77
Torque:	Nm	22 - 120
Power:	kW	0,72 / 1,01
Min. shell length:	mm	320 - 370



MTS138

Special Features		
Diameter:	mm	136
Gear ratio:		10 - 160
Rotational Speed:	RPM	19 - 300
Linear Speed:	m/s	0,14 - 2,14
Torque:	Nm	22 - 120
Power:	kW	0,72 / 1,01
Min. shell length:	mm	320 - 370

MTD138

Special Features		
Diameter:	mm	136
Gear ratio:		10 - 32
Rotational Speed:	RPM	75 - 300
Linear Speed:	m/s	0,67 - 2,14
Torque:	Nm	38 - 120
Power:	kW	1,50
Min. shell length:	mm	350 - 360

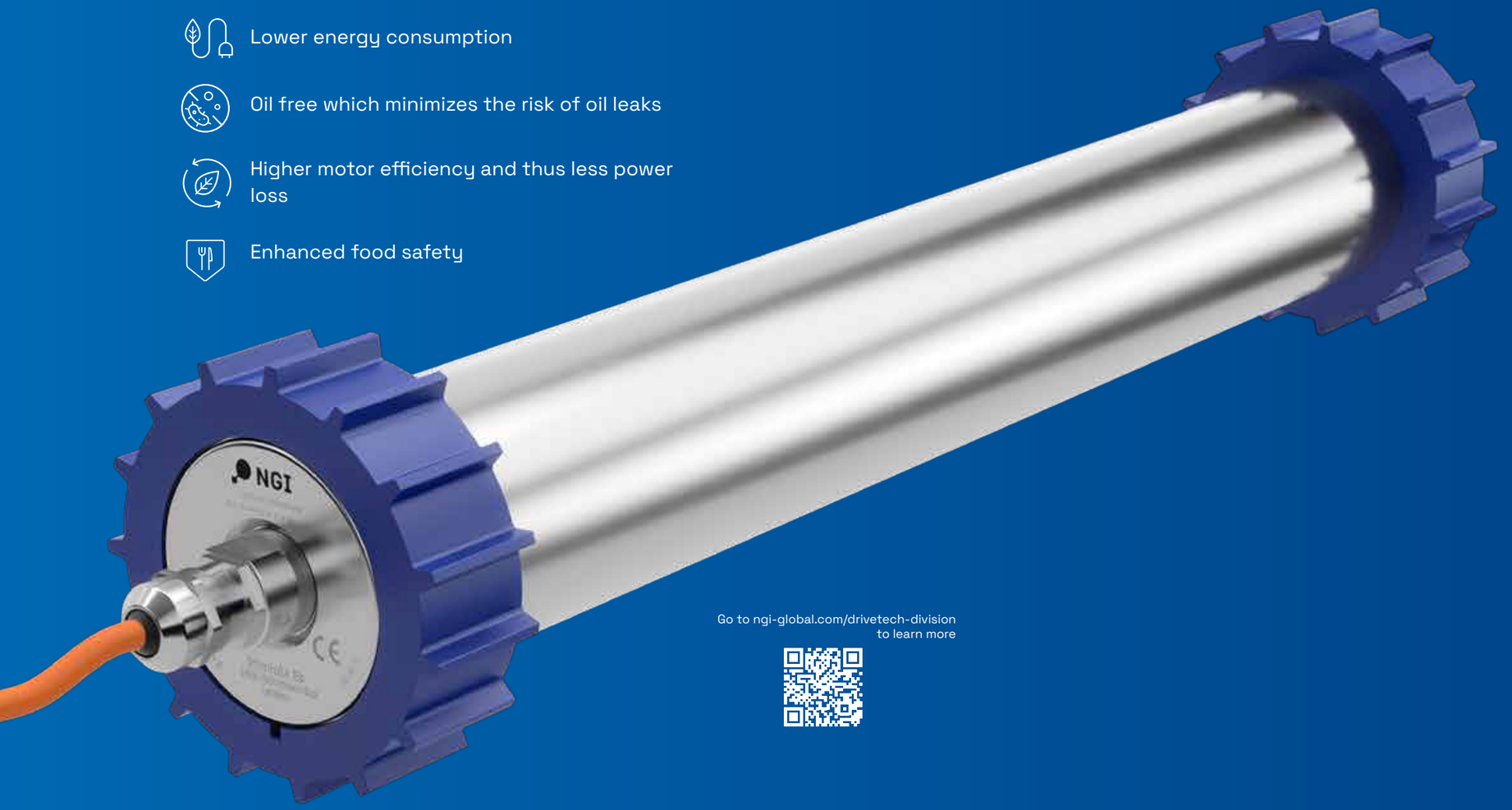
MTD139

Special Features		
Diameter:	mm	136
Gear ratio:		32 - 40
Rotational Speed:	RPM	75 - 94
Linear Speed:	m/s	0,53 - 0,67
Torque:	Nm	145 - 180
Power:	kW	1,50
Min. shell length:	mm	410

Synchronous drum Motors

Oil-free

- Lower energy consumption
- Oil free which minimizes the risk of oil leaks
- Higher motor efficiency and thus less power loss
- Enhanced food safety



Go to ngi-global.com/drivetech-division to learn more

Synchronous drum motors

Optimize food safety & efficiency with synchronous drum motors

Our oil-free synchronous drum motors have a higher motor efficiency and thus less power loss.

A conventional asynchronous drum motor creates heat causing higher power losses when in use. High power losses are both an economic disadvantage for the end-user as well as a liability to the environment.

Our synchronous motor does not require oil to cool down due to low heat generated from the motor and is therefore the economic and sustainable choice!

Scan the QR code and see our explainer video of our synchronous drum motors!

We have compared our synchronous drum motor with asynchronous drum motors

Learn about the advantages by using synchronous drum motors in regard to both food safety, efficiency and lower energy consumption!

Asynchronous drum motor

VS

Synchronous drum motor

Needs oil to cool down

The asynchronous motor requires oil to cool down the motor which requires maintenance and can result in an oil leakage. In most cases, the leak is not identified until the engine stops running due to overheating caused by lack of oil. This means that the oil has been transferred into the food, undetected.

High energy consumption

Asynchronous drum motors must work in oil bath to dissipate the heat generated by the motor inside. Leakage can be caused by excessive belt tensioning: this is a common problem with belting as belts tends to loosen with time and operators are required to increase the tension and it is easy to exceed.

High heat dissipation

The heat inside asynchronous motors is caused from losses: Iron losses, copper losses & mechanical losses Which results in low efficiency of the motor!

Single-speed dimensioning

When using asynchronous motors, you will have no or very limited possibility to control the speed of the motor. When changing the rated speed on an asynchronous motor you will decrease the torque provided and therefore will not be able to convey the load.
An asynchronous motor has no torque available at low frequencies.

Oil-free

Our synchronous motors do not require oil. No oil equals no oil leakage, resulting in a cleaner and safer operation and higher food safety. Oil contamination of conveyed goods is therefore impossible – a perfect match for the food industry.

Low energy consumption

Our synchronous drum motors means high efficiency as they do not generate excess heat due to a very high efficiency (almost 95% of the energy we provide is turned into motion, and only 5% is lost as heat).

Low self-heating

Our synchronous motors have a higher efficiency and up to 9 times lower power consumption than asynchronous drum motors due to minimized losses!

Multi-speed dimensioning

Our synchronous drum motors can convey very slowly or very fast – with continued high torque. This results in many new fields of applications – including quick starts and stops in packaging processes.

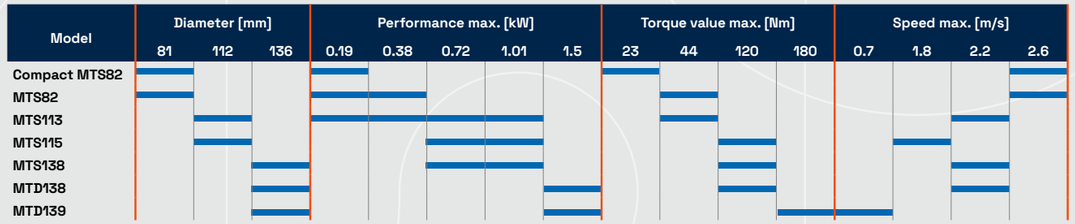
A quick overview of our synchronous drum motors

Our synchronous drum motors are space-saving, all-in-one components with a motor and transmission system that is maintenance and oil-free and fully protected within the drum.

This increases reliability, reduces operating costs and simplifies integration, and guarantees higher food safety!

Our products are extremely capable, yet simple to use. This promise is reflected in the very design of our products, which are carefully manufactured down to the smallest detail.

Matrix to find the right model:



Motor class	Gear ratio [i]	Rotational Speed [RPM]	Linear Speed [m/s]	Torque [Nm]	Power [kW]	Min. Shell Length [mm]
Compact MTS82	5 - 40	75 - 600	0,32- 2,54	2,9 - 23	0,19	193 - 222
MTS82	5 - 160	19 - 600	0,08 - 2,54	2,9 - 44	0,19 / 0,38	260 - 320
MTS113 - MTS 115	8 - 160	19 - 375	0,11 - 2,2	4,7 - 120	0,19 / 0,38 / 0,72 / 1,01	260 - 370
MTS138, MTD 138, MTD139	10 - 160	19 - 300	0,14 - 2,14	22 - 180	0,72 / 1,01 / 1,5	320 - 410

A few of the motors needs to be custom made. Ask your local sales representative!

Snap on sprocket

Snap on sprocket
Our own design that makes it easy to “snap on” the gear for selected conveyor belts. It is called a “snap on sprocket”.

Further, we can supply sprockets for all belting types based on your needs.

NGI Innovation - the Sustainable Way

Stainless steel - Recyclable materials

80% of our products can be recycled. We are working on initiatives to make this percentage even higher.

Hygienic seals - Resource saving

Permit easy cleaning and reduce water consumption.

High Quality - Longer lifetime

Our products are very high quality which means they have a longer lifetime than corresponding components.

Hygienic design - Protecting consumers

We make sure that the components do not constitute a hygiene risk through innovative and uncompromising design.

Designed to fit.
Built to perform.

NGI MTS82-0.19

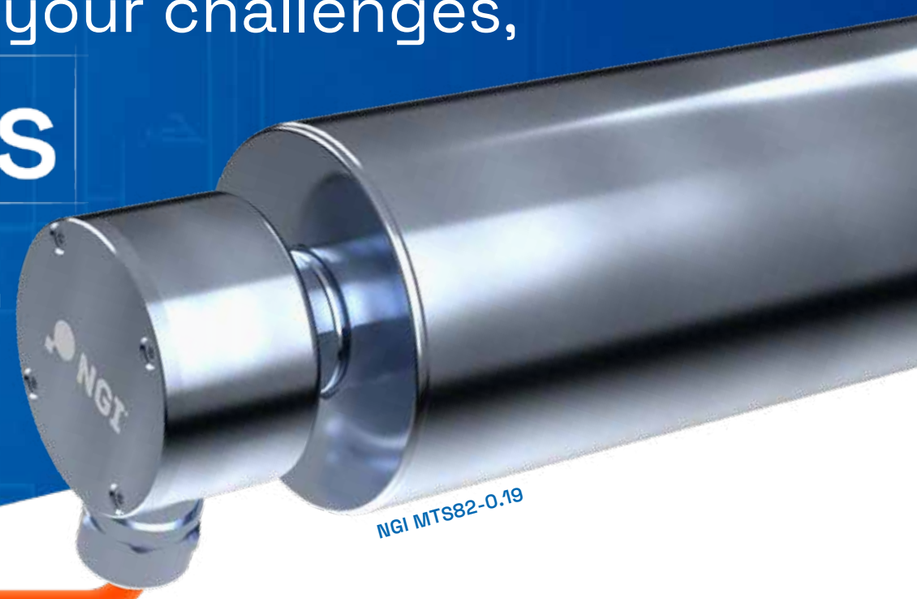
New Narrow **Drum motor**

Stand-Alone Conveyors | Integrated Belt Conveyors | Infeed Systems
Check Weighing Systems | X-Ray Systems | Packaging Machines

Whatever your challenges,
It Fits

Our new narrow drum motor is engineered to meet the specific challenges of space-constrained conveyor systems.

Designed to fit tight spaces, it delivers powerful performance while ensuring top hygiene and reliability.



NGI MTS82-0.19

Have a narrow space?

The slim profile, with shell lengths as narrow as 193 mm, is perfect for conveyor systems with limited space, letting you optimize your production line layout without sacrificing power or efficiency.

Need to meet strict hygiene standards?

The smooth, easy-to-clean design eliminates hidden areas where bacteria could accumulate, reducing contamination risks and ensuring compliance with even the most demanding sanitation protocols.

Looking for maximum torque and energy efficiency?

Advanced synchronous motor technology delivers high torque at any speed while using minimal energy, making it both powerful and cost-effective.

Require an oil-free, contamination-free solution?

The new drum is entirely oil-free, eliminating the risk of leaks and ensuring the highest level of food safety and product integrity.

It Fits

Learn how this compact powerhouse can fit seamlessly into your operation - and start delivering **big results.**

NGI

A new narrow drum motor that's big on precision, bigger on performance

Whatever your challenges, *it fits.*

Our new narrow synchronous drum motor is engineered precisely down to the last micron to deliver massive results.

Designed to fit tight spaces, it delivers powerful performance while ensuring top hygiene and reliability.

- ✓ Have a tight installation space? *It fits.*
- ✓ Need to ensure hygiene and ease of cleaning? *It fits.*
- ✓ Looking for high torque with high energy efficiency? *It fits.*
- ✓ Want a contamination-free, oil-free solution? *It fits.*
- ✓ Want long-term reliability with reduced maintenance? *It fits.*

Learn how this compact drum motor can fit seamlessly into your operation - and start delivering big results.

Drum motor
- Compact MTS82-0,19

Space constraints shouldn't compromise hygiene or efficiency

Here is the drum motor that gives you the power and hygienic performance you need in even the most narrow installations.

The Compact champion!
Our new compact drum motor is engineered specifically for applications where space is at a premium. Its advanced synchronous motor technology delivers maximum torque at all speeds while using minimal energy.

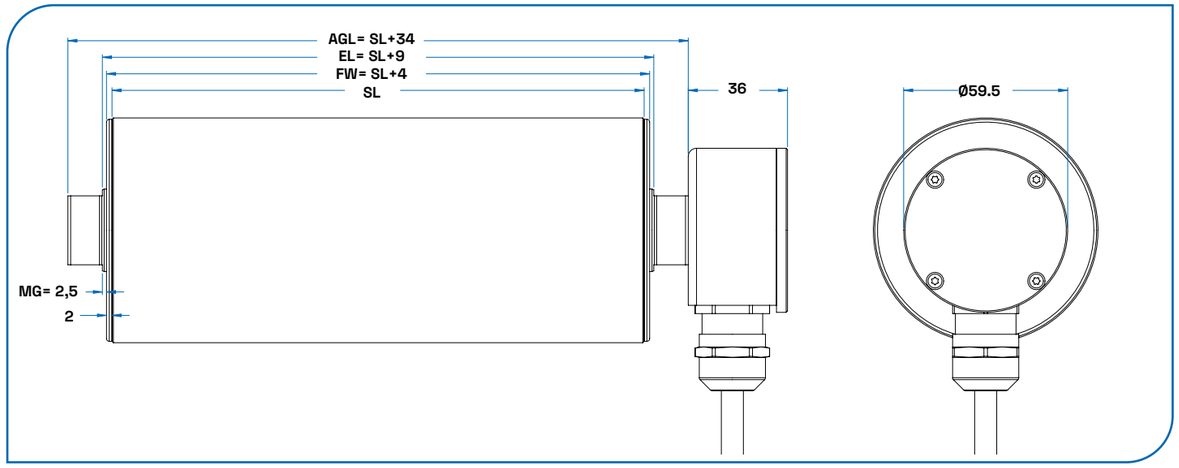
Hygienic Design, Inside and Out!
Our new drum motor has a smooth, seamless design and fully enclosed motor eliminates those hard-to-reach areas where bacteria love to hide.

Oil-Free and Worry-Free!
Like all NGI drum motors, our new compact drum motor is 100% oil-free, ensuring the highest level of hygiene and product safety.

Motor data:		
Rated power	**kW**	**0,19**
Rated speed	rpm	3.000
Rated frequency	Hz	150
Number of pole pairs		3
Wiring		Y
Insulation class		F
Supply voltage range	1 x / 3 x VAC	200 .. 480
DC Bus voltage range	VDC	280 .. 680
Rated voltage	3 x VAC	181
Rated torque	Nm	0,6
Rated current per phase	A	0,8
Stall torque	Nm	0,7
Stall current per phase	A	0,9
Peak torque	Nm	2,8
Peak current	A	3,6
Voltage constant	1.000 V / min^{-1}	49,6
Torque constant	Nm / A_{rms}	0,75
Winding resistance (2 phases)	Ω	26,4
Winding inductance (2 phases) identical to Ld and Lq	mH	37,6
Electrical time constant	ms	1,4
Moment of inertia rotor	kg cm^2	0,22
Anti condensing heating voltage	VDC	35

Drum motor
- Compact MTS82-0,19

The short variant of the MTS82-0,19 drum motor features a smaller cable box to achieve minimum shell lengths, with a pre-installed power cable.



For custom and replaceable power cables, a standard terminal box is available, maintaining the minimum shell length.

Rated Values refer to the drum shell							
Power	**Gear ratio**	**Rotational Speed**	**Linear Speed**	**Linear Speed**	**Torque**	**Belt pull**	**Min. Shell Length**
[kW]	[i]	[RPM]	[m/min.]	[m/s]	[Nm]	[N]	[mm]
0,19	5	600	153	2,54	2,9	73	193
0,19	8	375	95	1,59	4,7	115	193
0,19	12	250	64	1,06	6,9	171	206
0,19	16	188	48	0,80	9,2	228	206
0,19	20	150	38	0,64	11	228	206
0,19	25	120	31	0,51	14	352	206
0,19	32	94	24	0,40	18	450	206
0,19	40	75	19	0,32	23	557	222[1]

A cable gland connection and feedback systems are options which increase the minimum shell length as shown below.

Options lead to an increase in the minimum shell length	
Option	**SLmin (with option)**
Sensorless & cable gland	Minimum shell length SL_{min} + 39 mm
EDS35 or EKS36 & cable box	Minimum shell length SL_{min} + 43 mm

Certifications:
UL-certified: Yes / Optional
Protection Class: IP66 / IP69K
Efficiency Class: IE4

[1] Optional minimum shell length of 206 mm with torque output up to 20 Nm / 494N Belt pull.

Drum motor - MTS82 Class

MTS82 synchronous drum motor is space-saving, all-in-one components with a motor and transmission system that is maintenance-free and fully protected within the drum.

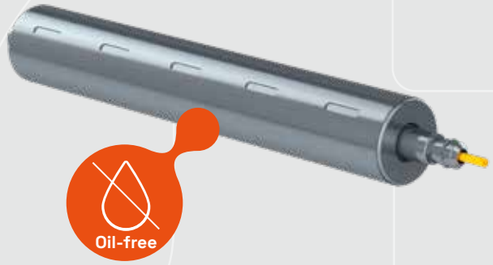
Our drum motors are completely oil-free. Oil contamination of conveyed goods is therefore impossible – a perfect match for food production industries.

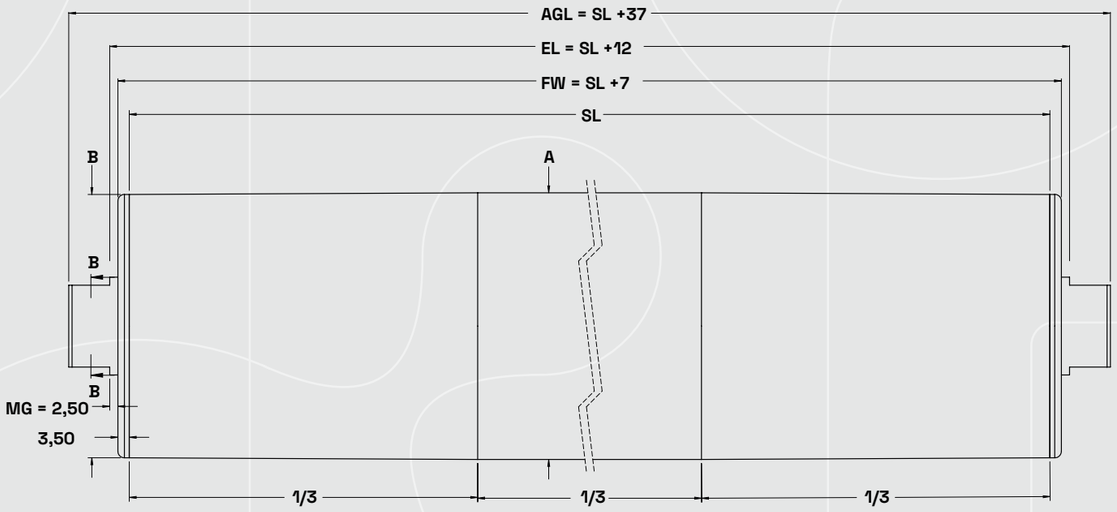
Synchronous drum motors offer the highest electrical efficiencies currently available and are extremely economical.

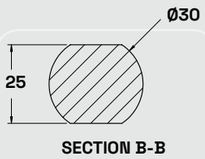
NGI synchronous motors have a higher efficiency and up to 9 times lower power than asynchronous drum motors due to minimized losses!

This increases reliability, reduces operating costs and simplifies integration!.

- Lower energy consumption
- Oil free - minimize the risk of oil leaks
- Higher motor efficiency
- Enhanced food safety







SECTION B-B

Explanations:

AGL = Total length of shaft
SL = Shell length (Reference length / ordering length)
EL = Installation length, inside diameter between side profiles
FW = Face width
MG = Length between drum motor and key

Type	ØA [mm]	ØB [mm]	Shell length max. [mm]
Crowned	81,5	80,5	1200
Cylindrical	81,0	81,0	1200
Cylindrical with key	81,7	81,7	850
Any other dimensions and any other shell profiles on request			

Drum motor - MTS82 Class

Motor Variants MTS82-0,19

Rated Values refer to the drum shell

Power [kW]	Gear ratio [i]	Rotational Speed [RPM]	Linear Speed [m/min.]	Linear Speed [m/s]	Torque [Nm]	Belt pull [N]	Min. Shell Length [mm]
0,19	5	600	153	2,54	2,9	73	260
0,19	8	375	95	1,59	4,7	115	260
0,19	12	250	64	1,06	6,9	171	270
0,19	16	188	48	0,80	9,2	228	270
0,19	20	150	38	0,64	11	228	270
0,19	25	120	31	0,51	14	352	270
0,19	32	94	24	0,40	18	450	270
0,19	40	75	19	0,32	23	557	270
0,19	160	19	5	0,08	44	1.086	290

Custom gear combinations on requests.

Motor Variants MTS82-0,38

Rated Values refer to the drum shell

Power [kW]	Gear ratio [i]	Rotational Speed [RPM]	Linear Speed [m/min.]	Linear Speed [m/s]	Torque [Nm]	Belt pull [N]	Min. Shell Length [mm]
0,38	5	600	153	2,54	5,9	145	290
0,38	8	375	95	1,59	9,3	230	290
0,38	12	250	64	1,06	14	341	300
0,38	16	188	48	0,80	18	455	300
0,38	20	150	38	0,64	23	569	300
0,38	25	120	31	0,51	28	704	300
0,38	32	94	24	0,40	36	901	300
0,38	40	75	19	0,32	40	988	300
0,38	160	19	5	0,08	44	1.086	320

Custom gear combinations on requests.

Drum motor
- MTS82 Class

- Lower energy consumption
- Oil free - minimize the risk of oil leaks
- Higher motor efficiency
- Enhanced food safety

Available with the following drum motor shells

We can supply all drum shell profiles also with sprockets as well as rubber sleeves.

- Cylindrical, crowned or conical shells
- Flat, crowned, conical or profiled rubber lining
- Radial grooves for round belts
- Milled guiding grooves and profiles

Many other designs are available, see some examples below.

Drum motor
- MTS82 Class

Possible speed adjustment ranges:	
Sensorlees operation with suitable frequency inverter	1 : 7 to 1 : 300 - (depending on Inverter type)
Servo drive and feedback	up to 1 : 10.000

Options lead to an increase in the minimum shell length:	
Option	**SLmin (with option)**
Resolver	Minimum shell lenght SL_{min} + 50 mm
SKS36	Minimum shell lenght SL_{min} + 70 mm
SKS36 with hybrid cable	Minimum shell lenght SL_{min} + 120 mm

Motor data:			
Rated power	**kW**	**0,19**	**0,38**
Rated speed	rpm	3.000	3.000
Rated frequency	Hz	150	150
Number of pole pairs		3	3
Wiring		Y	Y
Insulation class		F	F
Supply voltage range	1 x / 3 x VAC	200 .. 480	200 .. 480
DC Bus voltage range	VDC	280 .. 680	280 .. 680
Rated voltage	3 x VAC	181	181
Rated torque	Nm	0,6	1,2
Rated current per phase	A	0,8	1,5
Stall torque	Nm	0,7	1,5
Stall current per phase	A	0,9	1,8
Peak torque	Nm	2,8	6,0
Peak current	A	3,6	7,2
Voltage constant	1.000 V / min^{-1}	49,6	51,7
Torque constant	Nm / A_{rms}	0,75	0,80
Winding resistance (2 phases)	Ω	26,4	9,8
Winding inductance (2 phases) identical to Ld and Lq	mH	37,6	18,6
Electrical time constant	ms	1,4	1,9
Moment of inertia rotor	kg cm^2	0,22	0,41
Anti condensing heating voltage	VDC	35	26

Certifications:
UL-certified: Yes / Optional
Protection Class: IP66 / IP69K
Efficiency Class: IE4

Drum motor - MTS113 Class

MTS113 synchronous drum motor is space-saving, all-in-one components with a motor and transmission system that is maintenance-free and fully protected within the drum.

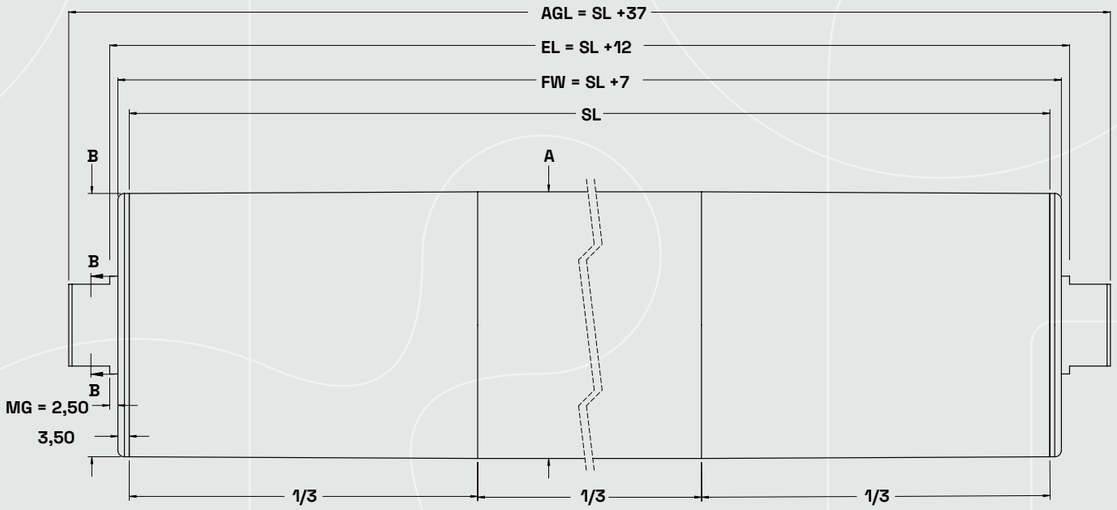
Our drum motors are completely oil-free. Oil contamination of conveyed goods is therefore impossible – a perfect match for food production industries.

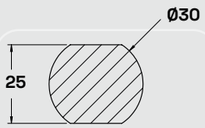
Synchronous drum motors offer the highest electrical efficiencies currently available and are extremely economical.

NGI synchronous motors have a higher efficiency and up to 9 times lower power than asynchronous drum motors due to minimized losses!

This increases reliability, reduces operating costs and simplifies integration!

- Lower energy consumption
- Oil free - minimize the risk of oil leaks
- Higher motor efficiency
- Enhanced food safety





Explanations:

AGL = Total length of shaft
SL = Shell length (Reference length / ordering length)
EL = Installation length, inside diameter between side profiles
FW = Face width
MG = Length between drum motor and key

Type	ØA [mm]	ØB [mm]	Shell length max. [mm]
Crowned	113,5	112	1300
Cylindrical	112	112	1300
Cylindrical with key	113	113	850
Any other dimensions and any other shell profiles on request			

NGI

Drum motor - MTS113 Class

Motor Variants MTS113-0,19

Rated Values refer to the drum shell

Power [kW]	Gear ratio [i]	Rotational Speed [RPM]	Linear Speed [m/min.]	Linear Speed [m/s]	Torque [Nm]	Belt pull [N]	Min. Shell Length [mm]
0,19	8	375	132	2,20	4,7	83	260
0,19	12	250	88	1,47	6,9	123	270
0,19	16	188	66	1,10	9,2	165	270
0,19	20	150	53	0,88	11	206	270
0,19	25	120	42	0,70	14	254	270
0,19	32	94	33	0,55	18	326	270
0,19	40	75	26	0,44	23	403	270
0,19	160	19	7	0,11	44	786	290

Custom gear combinations on requests.

Motor Variants MTS113-0,38

Rated Values refer to the drum shell

Power [kW]	Gear ratio [i]	Rotational Speed [RPM]	Linear Speed [m/min.]	Linear Speed [m/s]	Torque [Nm]	Belt pull [N]	Min. Shell Length [mm]
0,38	8	375	132	2,20	9,3	166	290
0,38	12	250	88	1,47	14	247	300
0,38	16	188	66	1,10	18	329	300
0,38	20	150	53	0,88	23	411	300
0,38	25	120	42	0,70	29	509	300
0,38	32	94	33	0,55	37	651	300
0,38	40	75	26	0,44	40	714	300
0,38	160	19	7	0,11	44	786	320

Custom gear combinations on requests.

Motor Variants MTS113-0,72

Rated Values refer to the drum shell

Power [kW]	Gear ratio [i]	Rotational Speed [RPM]	Linear Speed [m/min.]	Linear Speed [m/s]	Torque [Nm]	Belt pull [N]	Min. Shell Length [mm]
0,72	8	375	132	2,20	18	319	300
0,72	12	250	88	1,47	27	473	310
0,72	16	188	66	1,10	35	631	310
0,72	20	150	53	0,88	44	786	310
0,72	25	120	42	0,70	40	714	310
0,72	32	94	33	0,55	44	786	310

Custom gear combinations on requests.

Motor Variants MTS113-1,01

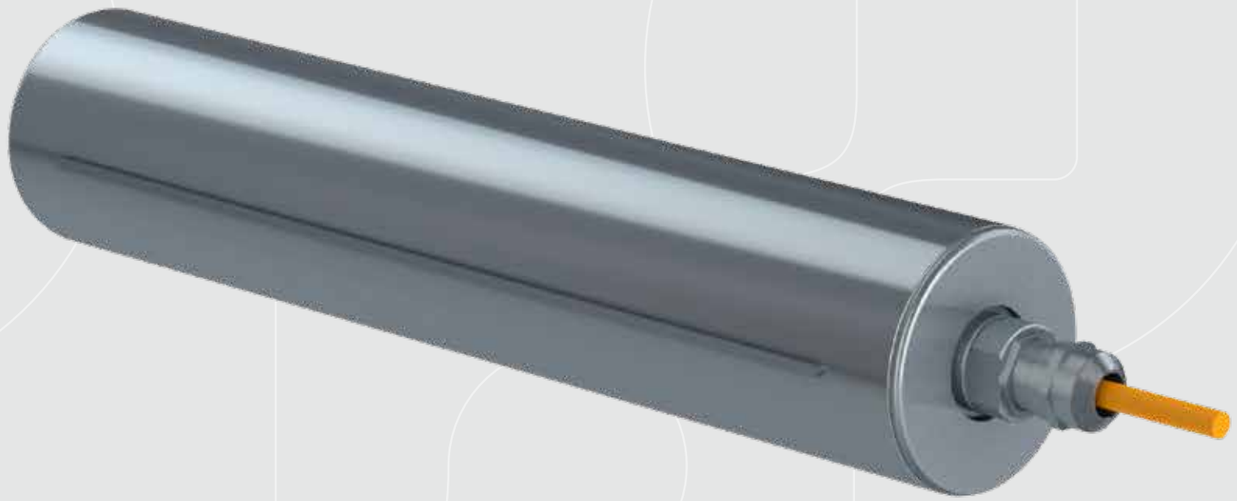
Rated Values refer to the drum shell

Power [kW]	Gear ratio [i]	Rotational Speed [RPM]	Linear Speed [m/min.]	Linear Speed [m/s]	Torque [Nm]	Belt pull [N]	Min. Shell Length [mm]
1,01	8	375	132	2,20	18	321	320
1,01	12	250	88	1,47	37	658	330
1,01	16	188	66	1,10	44	786	330
1,01	20	150	53	0,88	44	786	330
1,01	25	120	42	0,70	40	714	330
1,01	32	94	33	0,55	44	786	330

Custom gear combinations on requests.

Drum motor
- MTS113 Class

- Lower energy consumption
- Oil free - minimize the risk of oil leaks
- Higher motor efficiency
- Enhanced food safety

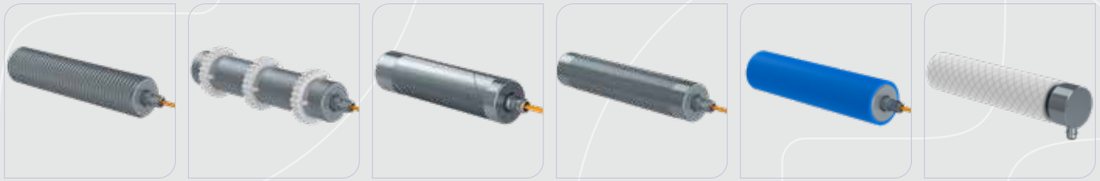


Available with the following Drum motor shells

We can supply all drum shell profiles also with sprockets as well as rubber sleeves.

- Cylindrical, crowned or conical shells
- Flat, crowned, conical or profiled rubber lining
- Radial grooves for round belts
- Milled guiding grooves and profiles

Many other designs are available, see some examples below.



Drum motor
- MTS113 Class

Possible speed adjustment ranges:	
Sensorlees operation with suitable frequency inverter	1 : 7 to 1 : 300 - (depending on Inverter type)
Servo drive and feedback	up to 1 : 10.000

Options lead to an increase in the minimum shell length:	
Option	**SLmin (with option)**
Resolver	Minimum shell lenght SL_{min} + 50 mm
SKS36	Minimum shell lenght SL_{min} + 70 mm
SKS36 with hybrid cable	Minimum shell lenght SL_{min} + 120 mm

Motor data:							
Rated power	**kW**	**0,19**	**0,38**	**0,72**	**0,72**	**1,01**	**1,01**
Rated speed	rpm	3.000	3.000	3.000	3.000	3.000	3.000
Rated frequency	Hz	150	150	150	150	150	150
Number of pole pairs		3	3	3	3	3	3
Wiring		Y	Y	Y	Y	Y	Y
Insulation class		F	F	F	F	F	F
Supply voltage range	1 x / 3 x VAC	200 .. 480	200 .. 480	200 .. 240	380 .. 480	200 .. 240	380 .. 480
DC Bus voltage range	VDC	280 .. 680	280 .. 680	280 .. 340	540 .. 680	280 .. 340	540 .. 680
Rated voltage	3 x VAC	181	181	181	320	181	320
Rated torque	Nm	0,6	1,2	2,3	2,3	3,2	3,2
Rated current per phase	A	0,8	1,5	2,6	1,6	3,7	2,1
Stall torque	Nm	0,7	1,5	2,8	2,8	3,5	3,5
Stall current per phase	A	0,9	1,8	3,1	1,8	3,9	2,2
Peak torque	Nm	2,8	6,0	11,2	11,2	14,0	14,0
Peak current	A	3,6	7,2	12,4	7,2	15,6	8,8
Voltage constant	1.000 V / min^{-1}	49,6	51,7	54,3	95,3	55,0	97,5
Torque constant	Nm / A_{rms}	0,75	0,80	0,88	1,44	0,86	1,52
Winding resistance (2 phases)	Ω	26,4	9,8	4,6	14,2	2,8	9,0
Winding inductance (2 phases) identical to Ld and Lq	mH	37,6	18,6	11,8	36,2	8,4	26,0
Electrical time constant	ms	1,4	1,9	2,6	2,5	3,0	2,9
Moment of inertia rotor	kg cm^2	0,22	0,41	1,40	1,40	1,93	1,93
Anti condensing heating voltage	VDC	35	26	23	40	19	34

Certifications:
UL-certified: Yes / Optional
Protection Class: IP66 / IP69K
Efficiency Class: IE4

Drum motor - MTS115 Class

MTS115 synchronous drum motor is space-saving, all-in-one components with a motor and transmission system that is maintenance-free and fully protected within the drum.

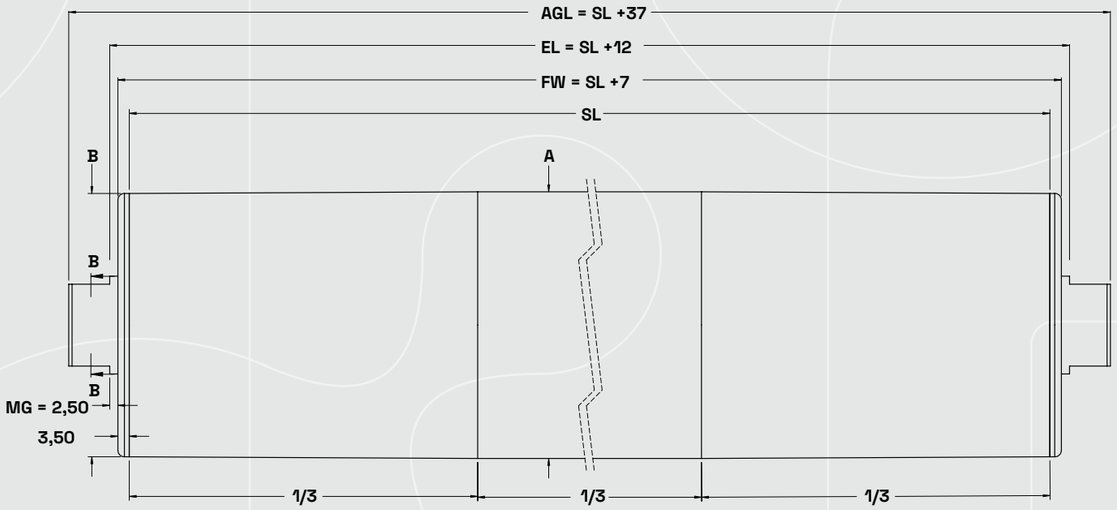
Our drum motors are completely oil-free. Oil contamination of conveyed goods is therefore impossible – a perfect match for food production industries.

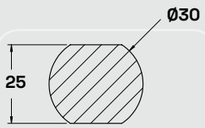
Synchronous drum motors offer the highest electrical efficiencies currently available and are extremely economical.

NGI synchronous motors have a higher efficiency and up to 9 times lower power than asynchronous drum motors due to minimized losses!

This increases reliability, reduces operating costs and simplifies integration!

- Lower energy consumption
- Oil free - minimize the risk of oil leaks
- Higher motor efficiency
- Enhanced food safety





Explanations:

AGL = Total length of shaft
SL = Shell length (Reference length / ordering length)
EL = Installation length, inside diameter between side profiles
FW = Face width
MG = Length between drum motor and key

Type	ØA [mm]	ØB [mm]	Shell length max. [mm]
Crowned	113,5	112	1300
Cylindrical	112	112	1300
Cylindrical with key	113	113	850
Any other dimensions and any other shell profiles on request			

Drum motor - MTS115 Class

Motor Variants MTS115-0,72

Rated Values refer to the drum shell

Power [kW]	Gear ratio [i]	Rotational Speed [RPM]	Linear Speed [m/min.]	Linear Speed [m/s]	Torque [Nm]	Belt pull [N]	Min. Shell Length [mm]
0,72	10	300	106	1,76	22	394	320
0,72	16	188	66	1,10	35	631	330
0,72	20	150	53	0,88	44	789	330
0,72	32	94	33	0,55	70	1.249	330
0,72	40	75	26	0,44	86	1.544	330
0,72	160	19	6,7	0,11	120	2.143	350

Custom gear combinations on requests.

Motor Variants MTS115-1,01

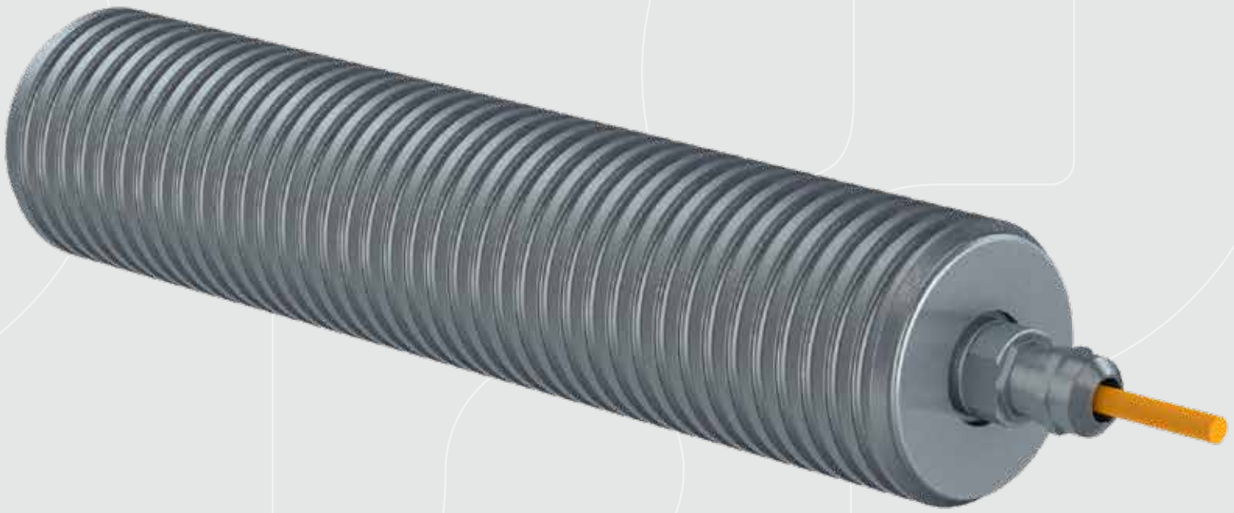
Rated Values refer to the drum shell

Power [kW]	Gear ratio [i]	Rotational Speed [RPM]	Linear Speed [m/min.]	Linear Speed [m/s]	Torque [Nm]	Belt pull [N]	Min. Shell Length [mm]
1,01	10	300	106	1,76	31	549	340
1,01	16	188	66	1,10	49	878	350
1,01	20	150	53	0,88	61	1.097	350
1,01	32	94	33	0,55	97	1.737	350
1,01	40	75	26	0,44	110	1.964	350
1,01	160	19	6,7	0,11	120	2.143	370

Custom gear combinations on requests.

Drum motor
- MTS115 Class

- Lower energy consumption
- Oil free - minimize the risk of oil leaks
- Higher motor efficiency
- Enhanced food safety

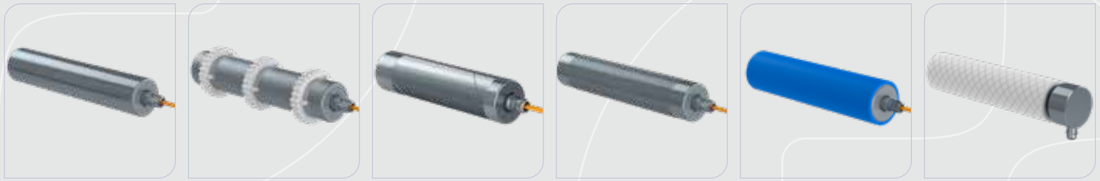


Available with the following Drum motor shells

We can supply all drum shell profiles also with sprockets as well as rubber sleeves.

- Cylindrical, crowned or conical shells
- Flat, crowned, conical or profiled rubber lining
- Radial grooves for round belts
- Milled guiding grooves and profiles

Many other designs are available, see some examples below.



Drum motor
- MTS115 Class

Possible speed adjustment ranges:	
Sensorlees operation with suitable frequency inverter	1 : 7 to 1 : 300 - (depending on Inverter type)
Servo drive and feedback	up to 1 : 10.000

Options lead to an increase in the minimum shell length:	
Option	**SLmin (with option)**
Resolver	Minimum shell lenght SL_{min} + 50 mm
SKS36	Minimum shell lenght SL_{min} + 70 mm
SKS36 with hybrid cable	Minimum shell lenght SL_{min} + 120 mm

Motor data:					
Rated power	**kW**	**0,72**	**0,72**	**1,01**	**1,01**
Rated speed	rpm	3.000	3.000	3.000	3.000
Rated frequency	Hz	150	150	150	150
Number of pole pairs		3	3	3	3
Wiring		Y	Y	Y	Y
Insulation class		F	F	F	F
Supply voltage range	1 x / 3 x VAC	200 .. 240	380 .. 480	200 .. 240	380 .. 480
DC Bus voltage range	VDC	280 .. 340	540 .. 680	280 .. 340	540 .. 680
Rated voltage	3 x VAC	181	320	181	320
Rated torque	Nm	2,3	2,3	3,2	3,2
Rated current per phase	A	2,6	1,6	3,7	2,1
Stall torque	Nm	2,8	2,8	3,5	3,5
Stall current per phase	A	3,1	1,8	3,9	2,2
Peak torque	Nm	11,2	11,2	14,0	14,0
Peak current	A	12,4	7,2	15,6	8,8
Voltage constant	1.000 V / min^{-1}	54,3	95,3	55,0	97,5
Torque constant	Nm / A_{rms}	0,88	1,44	0,86	1,52
Winding resistance (2 phases)	Ω	4,6	14,2	2,8	9,0
Winding inductance (2 phases) identical to Ld and Lq	mH	11,8	36,2	8,4	26,0
Electrical time constant	ms	2,6	2,5	3,0	2,9
Moment of inertia rotor	kg cm^2	1,40	1,40	1,93	1,93
Anti condensing heating voltage	VDC	23	40	19	34

Certifications:
UL-certified: Yes / Optional
Protection Class: IP66 / IP69K
Efficiency Class: IE4

Drum motor - MTS138 Class

MTS138 synchronous drum motor is space-saving, all-in-one components with a motor and transmission system that is maintenance-free and fully protected within the drum.

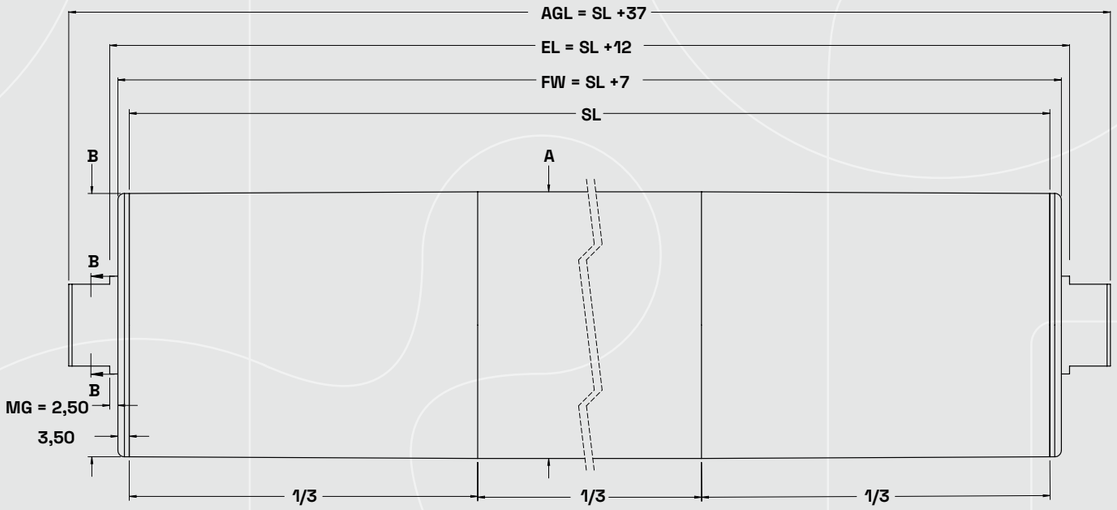
Our drum motors are completely oil-free. Oil contamination of conveyed goods is therefore impossible – a perfect match for food production industries.

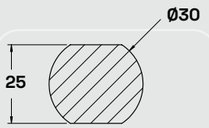
Synchronous drum motors offer the highest electrical efficiencies currently available and are extremely economical.

NGI synchronous motors have a higher efficiency and up to 9 times lower power than asynchronous drum motors due to minimized losses!

This increases reliability, reduces operating costs and simplifies integration!

- Lower energy consumption
- Oil free - minimize the risk of oil leaks
- Higher motor efficiency
- Enhanced food safety





Explanations:

AGL = Total length of shaft
SL = Shell length (Reference length / ordering length)
EL = Installation length, inside diameter between side profiles
FW = Face width
MG = Length between drum motor and key

Type	ØA [mm]	ØB [mm]	Shell length max. [mm]
Crowned	138	136	1500
Cylindrical	136	136	1500
Cylindrical with key	137	137	850
Any other dimensions and any other shell profiles on request			

Drum motor - MTS138 Class

Motor Variants MTS138-0,72

Rated Values refer to the drum shell

Power [kW]	Gear ratio [i]	Rotational Speed [RPM]	Linear Speed [m/min.]	Linear Speed [m/s]	Torque [Nm]	Belt pull [N]	Min. Shell Length [mm]
0,72	10	300	128	2,14	22	325	320
0,72	16	188	80	1,34	35	520	330
0,72	20	150	64	1,07	44	649	330
0,72	32	94	40	0,67	70	1.028	330
0,72	40	75	32	0,53	87	1.272	330
0,72	160	19	8	0,14	120	1.765	350

Custom gear combinations on requests.

Motor Variants MTS138-1,01

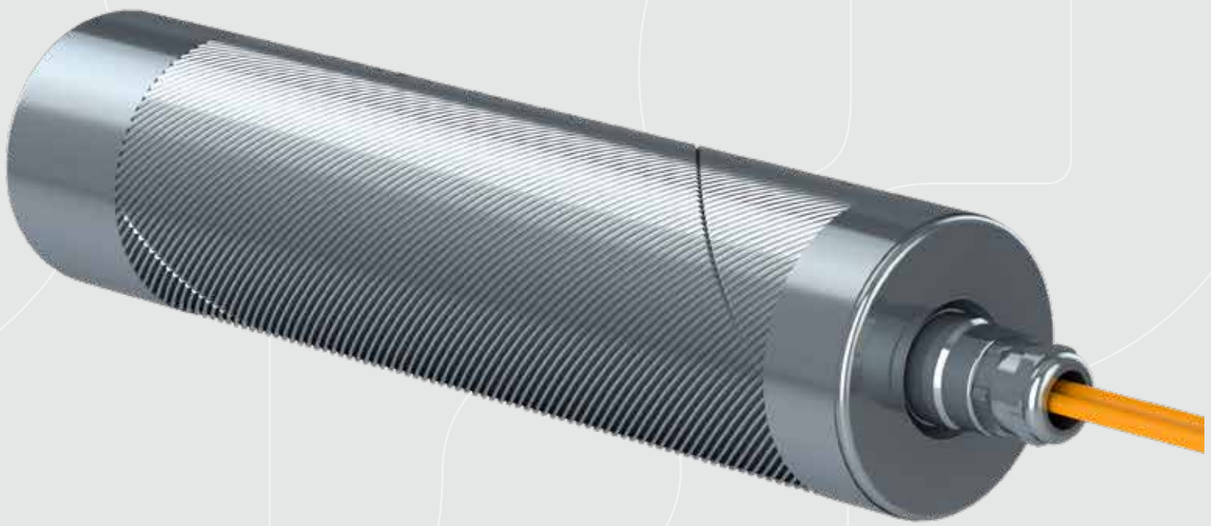
Rated Values refer to the drum shell

Power [kW]	Gear ratio [i]	Rotational Speed [RPM]	Linear Speed [m/min.]	Linear Speed [m/s]	Torque [Nm]	Belt pull [N]	Min. Shell Length [mm]
1,01	10	300	128	2,14	31	452	340
1,01	16	188	80	1,34	49	723	350
1,01	20	150	64	1,07	61	904	350
1,01	32	94	40	0,67	97	1.431	350
1,01	40	75	32	0,53	110	1.618	350
1,01	160	19	8	0,14	120	1.765	370

Custom gear combinations on requests.

Drum motor
- MTS138 Class

- Lower energy consumption
- Oil free - minimize the risk of oil leaks
- Higher motor efficiency
- Enhanced food safety

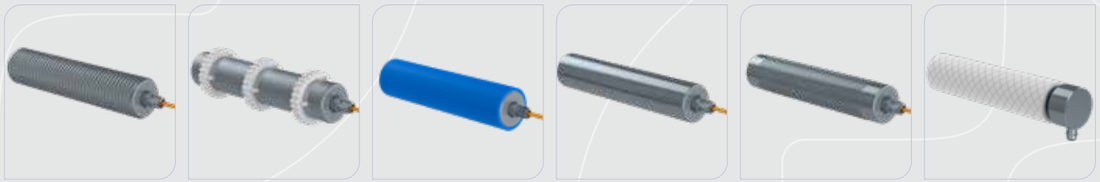


Available with the following Drum motor shells

We can supply all drum shell profiles also with sprockets as well as rubber sleeves.

- Cylindrical, crowned or conical shells
- Flat, crowned, conical or profiled rubber lining
- Radial grooves for round belts
- Milled guiding grooves and profiles

Many other designs are available, see some examples below.



Drum motor
- MTS138 Class

Possible speed adjustment ranges:	
Sensorlees operation with suitable frequency inverter	1 : 7 to 1 : 300 - (depending on Inverter type)
Servo drive and feedback	up to 1 : 10.000

Options lead to an increase in the minimum shell length:	
Option	**SLmin (with option)**
Resolver	Minimum shell lenght SL_{min} + 50 mm
SKS36	Minimum shell lenght SL_{min} + 70 mm
SKS36 with hybrid cable	Minimum shell lenght SL_{min} + 120 mm

Motor data:					
Rated power	**kW**	**0,72**	**0,72**	**1,01**	**1,01**
Rated speed	rpm	3.000	3.000	3.000	3.000
Rated frequency	Hz	150	150	150	150
Number of pole pairs		3	3	3	3
Wiring		Y	Y	Y	Y
Insulation class		F	F	F	F
Supply voltage range	1 x / 3 x VAC	200 .. 240	380 .. 480	200 .. 240	380 .. 480
DC Bus voltage range	VDC	280 .. 340	540 .. 680	280 .. 340	540 .. 680
Rated voltage	3 x VAC	181	320	181	320
Rated torque	Nm	2,3	2,3	3,2	3,2
Rated current per phase	A	2,6	1,6	3,7	2,1
Stall torque	Nm	2,8	2,8	3,5	3,5
Stall current per phase	A	3,1	1,8	3,9	2,2
Peak torque	Nm	11,2	11,2	14,0	14,0
Peak current	A	12,4	7,2	15,6	8,8
Voltage constant	1.000 V / min^{-1}	54,3	95,3	55,0	97,5
Torque constant	Nm / A_{rms}	0,88	1,44	0,86	1,52
Winding resistance (2 phases)	Ω	4,6	14,2	2,8	9,0
Winding inductance (2 phases) identical to Ld and Lq	mH	11,8	36,2	8,4	26,0
Electrical time constant	ms	2,6	2,5	3,0	2,9
Moment of inertia rotor	kg cm^2	1,40	1,40	1,93	1,93
Anti condensing heating voltage	VDC	23	40	19	34

Certifications:
UL-certified: No
Protection Class: IP66 / IP69K
Efficiency Class: IE4

Drum motor - MTD138 Class

MTD138 synchronous drum motor is space-saving, all-in-one components with a motor and transmission system that is maintenance-free and fully protected within the drum.

Our drum motors are completely oil-free. Oil contamination of conveyed goods is therefore impossible – a perfect match for food production industries.

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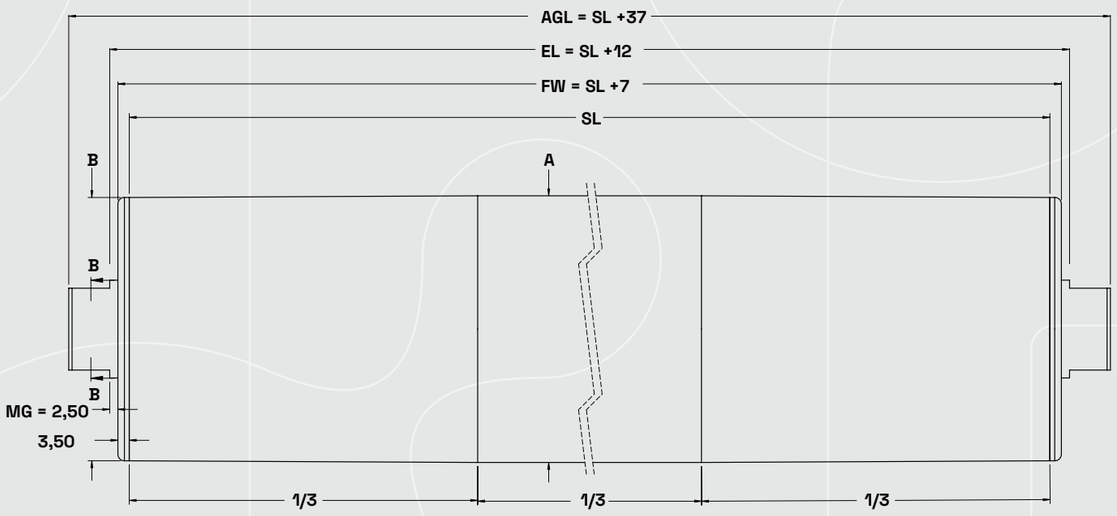
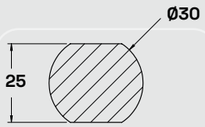
- Oil free - minimize the risk of oil leaks
- Higher motor efficiency
- Enhanced food safety





Explanations:

AGL = Total length of shaft
SL = Shell length (Reference length / ordering length)
EL = Installation length, inside diameter between side profiles
FW = Face width
MG = Length between drum motor and key

Type	ØA [mm]	ØB [mm]	Shell length max. [mm]
Crowned	138	136	1500
Cylindrical	136	136	1500
Cylindrical with key	137	137	850
Any other dimensions and any other shell profiles on request			

NGI

Drum motor - MTD138 Class

Motor Variants MTD138-1,5

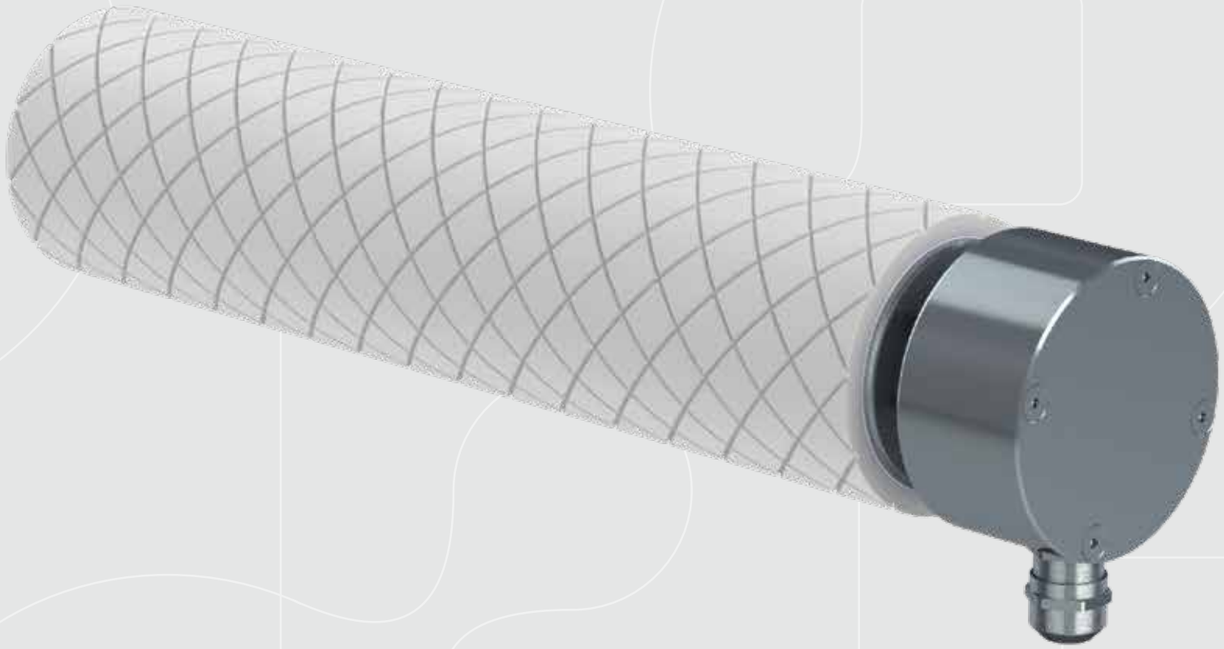
Rated Values refer to the drum shell

Power [kW]	Gear ratio [i]	Rotational Speed [RPM]	Linear Speed [m/min.]	Linear Speed [m/s]	Torque [Nm]	Belt pull [N]	Min. Shell Length [mm]
1,50	10	300	128	2,14	38	559	350
1,50	16	188	80	1,34	73	1.080	360
1,50	20	150	64	1,07	92	1.350	360
1,50	32	94	40	0,67	120	1.739	360

Custom gear combinations on requests.

Drum motor
- MTD138 Class

- Lower energy consumption
- Oil free - minimize the risk of oil leaks
- Higher motor efficiency
- Enhanced food safety

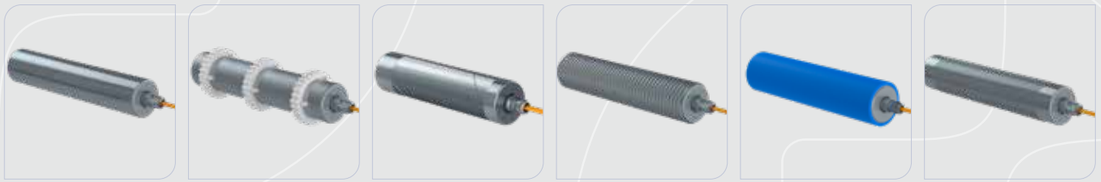


Available with the following Drum motor shells

We can supply all drum shell profiles also with sprockets as well as rubber sleeves.

- Cylindrical, crowned or conical shells
- Flat, crowned, conical or profiled rubber lining
- Radial grooves for round belts
- Milled guiding grooves and profiles

Many other designs are available, see some examples below.



Drum motor
- MTD138 Class

Possible speed adjustment ranges:	
Sensorlees operation with suitable frequency inverter	1 : 7 to 1 : 300 - (depending on Inverter type)
Servo drive and feedback	up to 1 : 10.000

Options lead to an increase in the minimum shell length:	
Option	**SLmin (with option)**
Resolver	Minimum shell lenght SL_{min} + 50 mm
SKS36	Minimum shell lenght SL_{min} + 70 mm
SKS36 with hybrid cable	Minimum shell lenght SL_{min} + 120 mm

Motor data:			
Rated power	**kW**	**1,50**	**1,5**
Rated speed	rpm	3.000	3.000
Rated frequency	Hz	150	150
Number of pole pairs		3	3
Wiring		Y	Y
Insulation class		F	F
Supply voltage range	1 x / 3 x VAC	200 .. 240	380 .. 480
DC Bus voltage range	VDC	280 .. 340	540 .. 680
Rated voltage	3 x VAC	171	318
Rated torque	Nm	4,8	4,8
Rated current per phase	A	6,1	3,3
Stall torque	Nm	5,0	5,0
Stall current per phase	A	6,2	3,3
Peak torque	Nm	12,5	12,5
Peak current	A	15,5	8,3
Voltage constant	1.000 V / min^{-1}	51,2	100,5
Torque constant	Nm / A_{rms}	0,78	1,45
Winding resistance (2 phases)	Ω	1,9	7,1
Winding inductance (2 phases) identical to Ld and Lq	mH	12,5	43,0
Electrical time constant	ms	6,5	6,0
Moment of inertia rotor	kg cm^2	1,73	1,73
Anti condensing heating voltage	VDC	18	36

Certifications:
UL-certified: No
Protection Class: IP66 / IP69K
Efficiency Class: IE4

Drum motor
- MTD139 Class

MTD139 synchronous drum motor is space-saving, all-in-one components with a motor and transmission system that is maintenance-free and fully protected within the drum.

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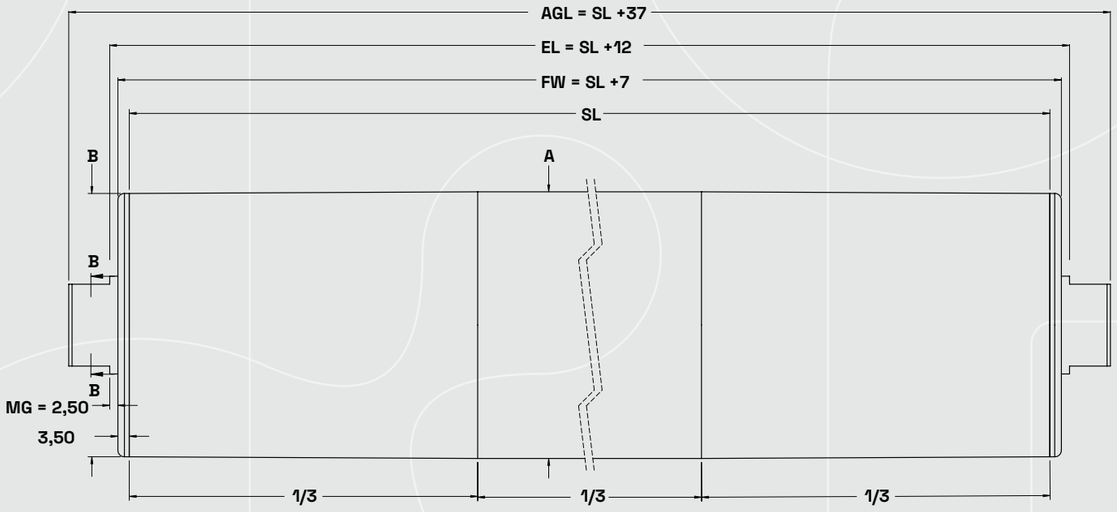
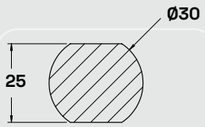
- Higher motor efficiency
- Enhanced food safety





Explanations:

AGL = Total length of shaft
SL = Shell length (Reference length / ordering length)
EL = Installation length, inside diameter between side profiles
FW = Face width
MG = Length between drum motor and key

Type	ØA [mm]	ØB [mm]	Shell length max. [mm]
Crowned	138	136	1500
Cylindrical	136	136	1500
Cylindrical with key	137	137	850
Any other dimensions and any other shell profiles on request			

NGI

Drum motor
- MTD139 Class

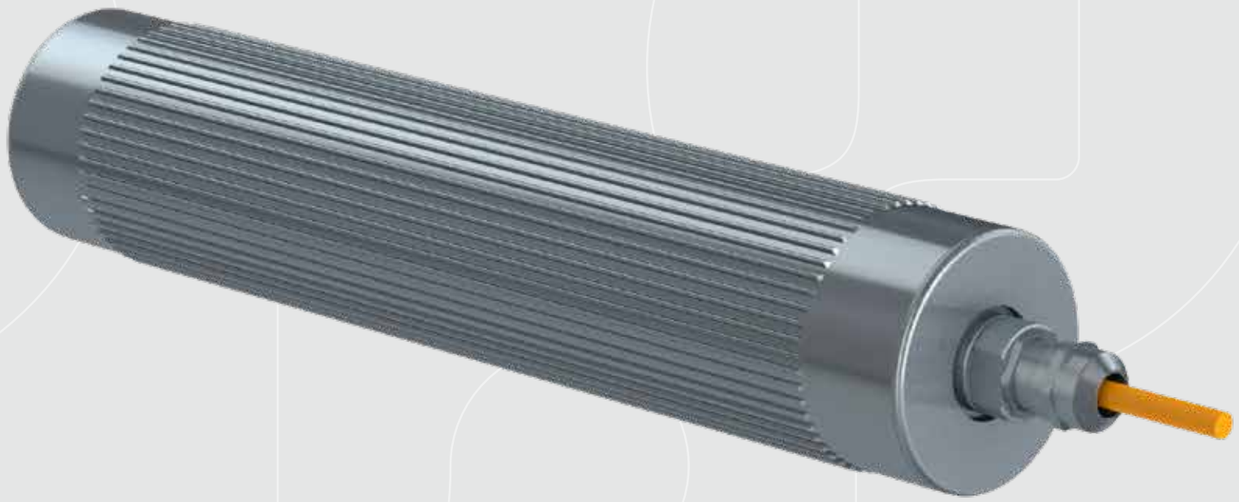
Motor Variants MTD139-1,5

Rated Values refer to the drum shell							
Power [kW]	Gear ratio [i]	Rotational Speed [RPM]	Linear Speed [m/min.]	Linear Speed [m/s]	Torque [Nm]	Belt pull [N]	Min. Shell Length [mm]
1,50	32	94	40	0,67	145	2.137	410
1,50	40	75	32	0,53	180	2.643	410

Custom gear combinations on requests.

Drum motor
- MTD139 Class

- Lower energy consumption
- Oil free - minimize the risk of oil leaks
- Higher motor efficiency
- Enhanced food safety

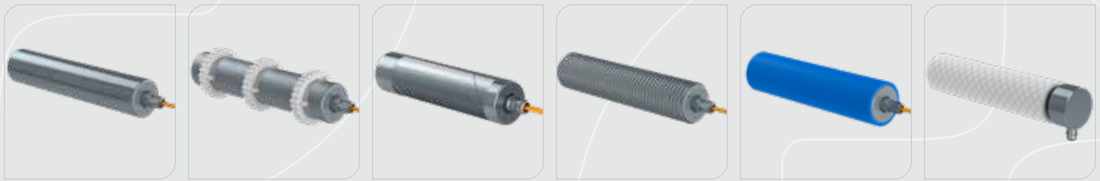


Available with the following Drum motor shells

We can supply all drum shell profiles also with sprockets as well as rubber sleeves.

- Cylindrical, crowned or conical shells
- Flat, crowned, conical or profiled rubber lining
- Radial grooves for round belts
- Milled guiding grooves and profiles

Many other designs are available, see some examples below.



NGI

Drum motor
- MTD139 Class

Possible speed adjustment ranges:	
Sensorlees operation with suitable frequency inverter	1 : 7 to 1 : 300 - (depending on Inverter type)
Servo drive and feedback	up to 1 : 10.000

Options lead to an increase in the minimum shell length:	
Option	**SLmin (with option)**
Resolver	Minimum shell lenght SL_{min} + 50 mm
SKS36	Minimum shell lenght SL_{min} + 70 mm
SKS36 with hybrid cable	Minimum shell lenght SL_{min} + 120 mm

Motor data:			
Rated power	**kW**	**1,5**	**1,5**
Rated speed	rpm	3.000	3.000
Rated frequency	Hz	150	150
Number of pole pairs		3	3
Wiring		Y	Y
Insulation class		F	F
Supply voltage range	1 x / 3 x VAC	200 .. 240	380 .. 480
DC Bus voltage range	VDC	280 .. 340	540 .. 680
Rated voltage	3 x VAC	171	318
Rated torque	Nm	4,8	4,8
Rated current per phase	A	6,1	3,3
Stall torque	Nm	5,0	5,0
Stall current per phase	A	6,2	3,3
Peak torque	Nm	12,5	12,5
Peak current	A	15,5	8,3
Voltage constant	1.000 V / min^{-1}	51,2	100,5
Torque constant	Nm / A_{rms}	0,78	1,45
Winding resistance (2 phases)	Ω	1,9	7,1
Winding inductance (2 phases) identical to Ld and Lq	mH	12,5	43,0
Electrical time constant	ms	6,5	6,0
Moment of inertia rotor	kg cm^2	1,73	1,73
Anti condensing heating voltage	VDC	18	36

Certifications:
UL-certified: No
Protection Class: IP66 / IP69K
Efficiency Class: IE4

Cable specifications

Cable specifications

Power cable < 5m	
Construction	4 x 0,50 mm² + (2 x 0,25 mm²)C shielded
Voltage	600 V (0,5 mm²)
Sheath material	PUR (TPE-U)
Outer diameter	7,6 mm (max. 7,9 mm)
Sheath colour	orange (similar to RAL 2003)
Temperature range (fixed in place)	- 50°C to + 105°C
Minimum bending radius (fixed in place)	7,5 x D
Flame retardant	Yes
Halogen free	Yes
Oil resistant	Yes
UL	AWM STYLE 21928 / 11559 105°C 600 V

Power cable ≥ 5m	
Construction	4 x 0,75 mm² + (2 x 0,34 mm²)C shielded
Voltage	600 V (0,5 mm²)
Sheath material	PUR (TPE-U)
Outer diameter	7,6 mm (max. 7,9 mm)
Sheath colour	orange (similar to RAL 2003)
Temperature range (fixed in place)	- 50°C to + 105°C
Minimum bending radius (fixed in place)	7,5 x D
Flame retardant	Yes
Halogen free	Yes
Oil resistant	Yes
UL	AWM STYLE 21928 / 11559 105°C 600 V

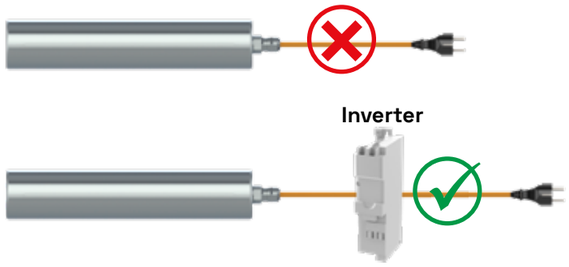
Colour assignment power	Signal / Function
Black / 1	U
Black / 2	V
Black / 3	W
Green-yellow	PE
Brown	KTY (+) or PTC
White	KTY (-) or PTC

Pin assignment Power / Option: Terminal Box	Signal / Function
L1	U
L2	V
L3	W
M5x8 Screw	PE
KTY+ / 5	KTY (+) or PTC
KTY- / 6	KTY (-) or PTC

Option Feedback system

Characteristics - Inverter

MTS drum motors have an inverter between the electrical socket and the drum motor in order to avoid overload of the electrical circuits in the initial starting phase. The MTS drum motors runs at 150 Hz as standard, the frequency inverter enables the motor to run at various speeds.



Option: Motor feedback

MTS drum motors can be supplied with either resolver or encoder type SKS36, ECI 1119 or type EDS35:

Resolver

Resolver	
Number of poles	2
Input frequency	10 kHz
Input voltage	7 Vr_{ms}
Connection	Signal cable 6 x 0,14 qmm, shielded

Cable specifications / Resolver cable	
Construction	3 x 2 x 0,14 mm² shielded
Sheath material	PVC
Outer diameter	5,8 mm
Sheath colour	Grey (RAL 7032)
Temperature range (fixed in place)	- 40 °C to + 80 °C
Minimum bending radius (fixed in place)	6 x D
Flame retardant	Yes
Halogen free	Yes
Oil resistant	Yes
UL	No

Colour assignment resolver cable	Signal / Function
White	REF +
Brown	REF -
Green	SIN +
Yellow	SIN -
Pink	COS +
Grey	COS -

Option Feedback system

SKS36

SKS36	
Number of Sin / Cos Periods per revolution	128
Number of absolute revolutions	1 (single turn)
Resolution	4096
Communication interface	HIPERFACE
Supply voltage	7 to 12 V DC
Connection	2-Cable solution, Hybrid cable

Note: Motor data plate storage on SKS36 for PACDrive 3. Empty storage on request.

Cable specifications / SKS36 cable / 2-Cable solution	
Construction	4 x 2 x 0,15 mm² shielded
Sheath material	PUR (TPE-U)
Outer diameter	5,3 mm
Sheath colour	Black
Temperature range (fixed in place)	- 30 °C to + 90 °C
Minimum bending radius (fixed in place)	5 x D

Colour assignment SKS36	Signal / Function
Grey	DATA +
Green	DATA -
White	SIN +
Brown	REF SIN
Pink	COS +
Black	REF COS
Red	US (8 V DC)
Blue	GND (0 V DC)

Cable specifications / SKS36 cable / Hybrid cable	
Construction	Power 4x0,5 + 2x0,5 Signal 3x(2x)0,14+2x0,34
Voltage	1000V peak
Sheath material	PUR
Outer diameter	11,1mm
Sheath colour	grey (similar to RAL 7001)
Temperature range (fixed in place)	- 25°C to + 80°C
Minimum bending radius (fixed in place)	5 x D
Flame retardant	Yes
Halogen free	Yes
Oil resistant	Yes
UL	AWM STYLE 20910 (80°C)

Option Feedback system

Colour assignment / SKS36 / Hybrid cable	Signal / Function
Black / 1	U
Black / 2	V
Black / 3	W
green-yellow	PE
Black / 7	KTY (+) or PTC
Black / 8	KTY (-) or PTC
Yellow	DATA +
Green	DATA -
White	SIN +
Brown	REF SIN
Pink	COS +
Grey	REF COS
Red	US (8 V DC)
Blue	GND (0 V DC)

EDS35

EDS35	
Resolution per turn	24 bit
Number of absolute detectable turns	1
Measuring step per turn	16.777.216
Communication interface	HIPERFACE DSL
Connection	Hybrid cabel, Terminal Box

Cable specifications / EDS35 / Hybrid cable	
Construction	RCB-4x1,0+(2x0,126mm²)-PUR-9-S-000
Voltage	1000V
Sheath material	PUR
Outer diameter	9mm +-0,3
Sheath colour	orange
Temperature range (fixed in place)	- 50°C to + 105°C
Minimum bending radius (fixed in place)	7,5 x D
Flame retardant	Yes
Halogen free	Yes
Oil resistant	Yes
UL	AWM Style 21223 80°C 1000V

Colour assignment / Cable specifications / EDS35 / Hybrid cable	Signal / Function
Black / 1	U
Black / 2	V
Black / 3	W
Green-yellow	PE
blue	GND / DSL
white	+US / DSL+

Option Feedback system

ECI1119

ECI1119	
Resolution per turn	19 bit
Number of absolute detectable turns	1
Measuring step per turn	524.288
Communication interface	EnDat 2.2
Connection	Hybrid cable

Cable specifications / ECI1119 / Hybrid cable	
Construction	Power 4x0,5 + 2x0,5 Signal 3x(2x)0,14+2x0,34
Voltage	1000V peak
Sheath material	PUR
Outer diameter	11,1mm
Sheath colour	grey (similar to RAL 7001)
Temperature range (fixed in place)	- 25°C to + 80°C
Minimum bending radius (fixed in place)	5 x D
Flame retardant	Yes
Halogen free	Yes
Oil resistant	Yes
UL	AWM STYLE 20910 (80°C)

Colour assignment / ECI1119 / Hybrid cable	Signal / Function
Black / 1	U
Black / 2	V
Black / 3	W
Green-yellow	PE
brown Sensor	UP
white Sensor	0 V
grey	DATA
pink	DATA
green	CLOCK
yellow	CLOCK

Other feedback systems on request e.g. EnDat 2.2 or incremental encoder.

Thermal protection and material variants

Thermal protection

The MTS drum-motor is fitted, as standard, with a KTY84-130 thermal sensor. If necessary, we can also offer a PTC thermal sensor. The temperature sensor must be monitored by an external circuit, such as a frequency convertor which switches off the power supply to the motor, if the maximum temperature is exceeded.

KTY84-130, technical data	
Measurement range	- 40 °C to + 300 °C
Reference resistance	1.000 Ohm
Reference temperature	100 °C
Tolerance	+/- 3 %
Measurement current	2 mA

Optionally it is possible to fit a PTC sensor.
Not every Inverter type can monitor KTY thermal protection, most of Inverters types operate with PTC.

PTC, technical Data	
Operating voltage range	2,5 to 24 V DC
Maximum permissible operating voltage	30 V DC

Resistance at switching temperature	
- 20 °C to T_{REF} - 20 K	< 250 Ω
T_{REF} - 5 K	≤ 550 Ω
T_{REF} + 5 K	≥ 1.330 Ω
T_{REF} + 15 K	≥ 4.000 Ω

Constructions / Material variants

Component	Variants	Standard	Option
Shell	Crowned	Steel 1.0038	Stainless steel 1.4301
	Cylindrical	Steel 1.0038	Stainless steel 1.4301
	Cylindrical with key	Steel 1.0038	Stainless steel 1.4301
[Other materials on request]	Variants: Any profiled drum shell design, knurling (length depending)		
	Flat rubber lagging	NBR, shore 50 - 90. Colour: blue or white	
	Profiled rubber lagging	NBR, shore 50 - 90. Colour: blue or white	
Shaft	D = 30 / SW = 25 / SFL = 12,5	Stainless steel 1.4305	
	Alternative design on request	Stainless steel 1.4305	
Cover	Laser engreaved name plate	Stainless steel 1.4305	
Labyrinth seal		Galvanised steel	Stainless steel 1.4301
Electrical connection	Straight cable gland	Brass	Stainless steel 1.4305
	Elbow cable gland	Stainless steel 1.4305	
	Terminal box	Stainless steel 1.4305	
	Cable with connection plugs on request		

Tested frequency converters / servo drives

Our drum motors have been tested with the following frequency converters and servo drives. This does not limited our capabilities to these drives.

	Driver / VFD closed loop		VFD / sensorless
Manufacturer	**Type**	**Geber / Sensor**	**Type**
ABB			ACSM1
Rockwell / Allen Bradley	Kinetix 5700	Encoder Resolver with converter	AB Powerflex 525
Beckhoff	AX5000 AX8000	Resolver, SKS36 EDS35	AX5000 AX8000
Bonfiglioli			AGILE
B&R			ACOPOS Sinverter P74
Danfoss	VLT FC 302	Resolver	VLT FC 2800 VLT FC 302
Emerson	Unidrive M700	Encoder	Unidrive M600
Festo			CMMT-AS
Hitachi			WJ200
Invertek			Optidrive E3 Optidrive P2
KEB	Combivert F5 Combivert S6	Resolver Resolver / Encoder	Combivert F5 SCL Combivert G6 Combivert S6
Lenze	i950 series 8400 Top Line	Resolver Encoder Encoder Resolver	i500 series 8400 State Line 8400 Motec
Nord			SK 215E SK 500 P
Omron			MX2 V1000
Schneider Electric	ATV 340 LXM 32 / 52 / 62 ILD	Resolver SKS 36 SKS 36	ATV 320 ATV 340 LXM 62+
SEW	Movidrive B	Resolver, SKS36	Movitrac LTP-B Movitrac LTE-B*
Siemens	Sinamics 120	Resolver	Sinamics G120
Yaskawa			A1000

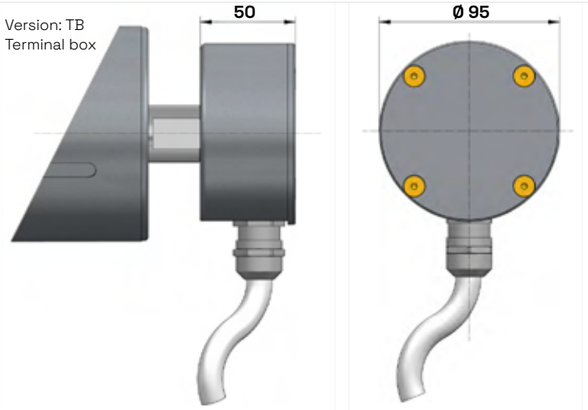
* Only for continuous motion

Technical data

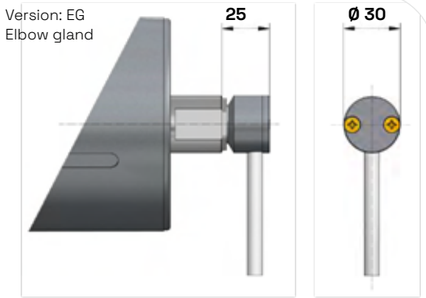
Cable connection, dimensions cable connection and constructions/material variants are the same for all drum motor classes.

Cable Connection

Version: TB
Terminal box

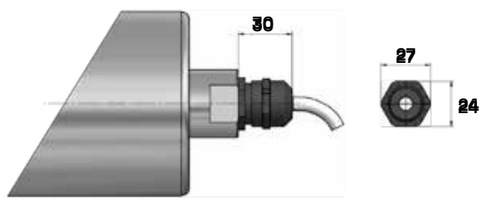


Version: EG
Elbow gland



Elbow Gland only available for sensorless and the solution is IP66.

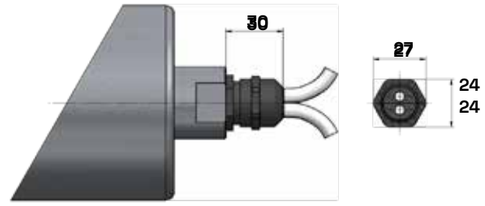
Dimensions Cable Connection



Version: CG
EMV cable gland, straight

Cable lengths > 10 m on request

Hybrid cable is possible.



Version: CGT
Cable gland, straight, for 2 cables
(Option motor feedback)

Operating temperature range of our drum motor	
Standard when operating with belt	+5 °C to +40 °C
Optional low temperature range	to -25 °C lower temperature on request
Optional high temperature range	to +70 °C

CASE STORY

MAREL
Marel relies on synchronous drum motors from NGI

MEAT, POULTRY & FISH

NGI

THE CHALLENGE

With asynchronous drum motors, oil is often used to cool down the motor. The problem with this is that even in a hermetically sealed drum motor, oil is a critical control point in an HACCP concept that should ideally be avoided in a hygienic design.

THE SOLUTION

Synchronous drum motors has a lower operating temperature and are more energy-efficient compared to asynchronous drum motors. Overall, this is a perfect combination for Marel, as it allows users to achieve maximum productivity while at the same time reducing energy consumption and enhancing the food safety in food processing.

”The oil-free synchronous drum motors from NGI are among the coolest and most powerful currently available on the market, or at least that’s the opinion of Andri Sveinsson. Hygienic design is extremely important to us. These drum motors are powerful, have low-self-heating, and are dry and robust.

In addition, they reduce the individual components of a machine which makes construction easier. Also, the service from NGI is indeed outstanding and right on the mark.”

Andri Sveinsson
Project Manager for Innovation at Marel.

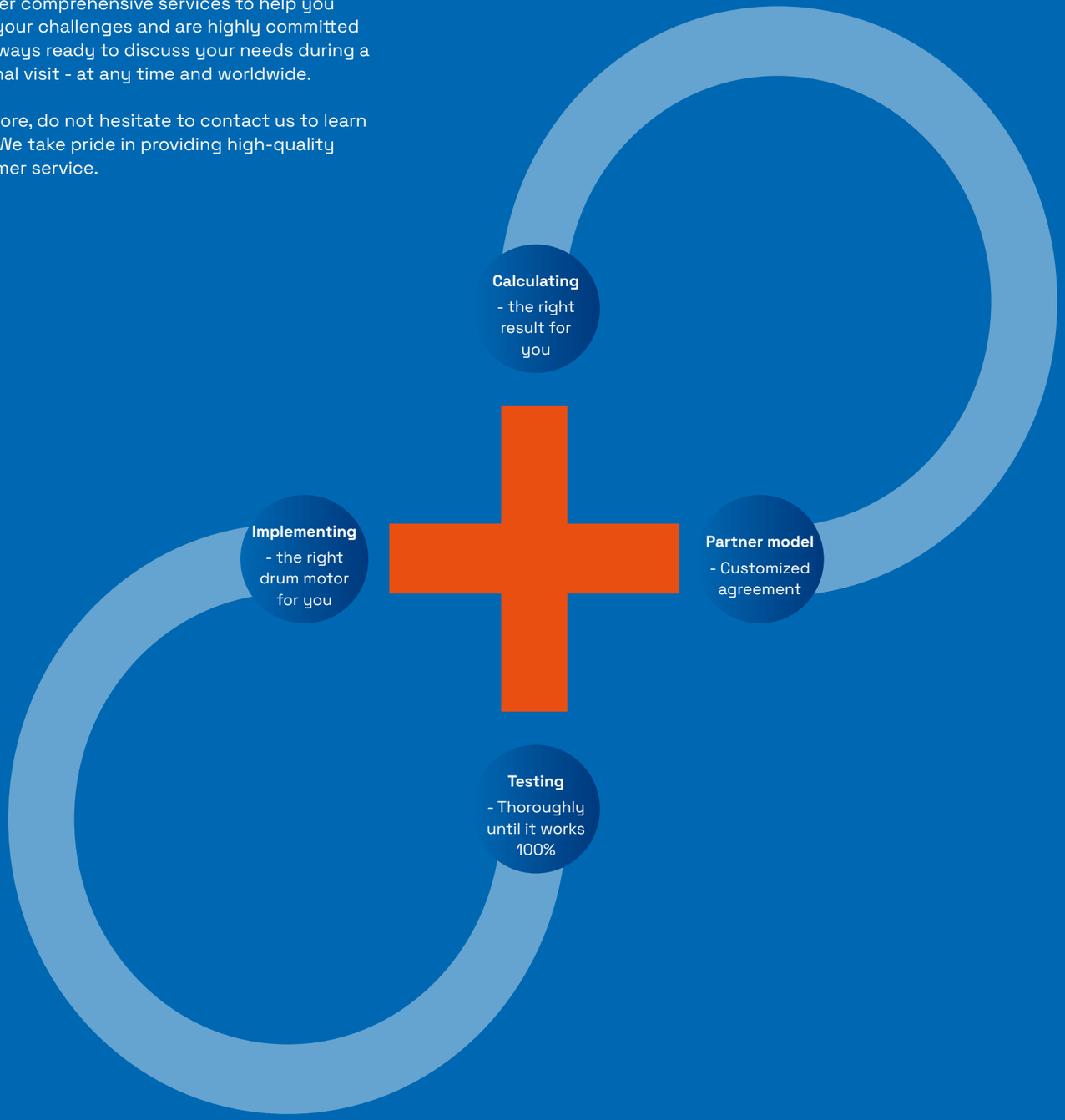
THE EFFECT

By switching to synchronous drum motors, Andri Sveinsson is intending to significantly reduce the number of variants in the plant. In future, the portfolio he manages will only be a third as large, which will also reduce storage and replacement costs. The streamlined maintenance also limits both the amount of work involved in servicing and the training required.

Let us help find and implement the right model!

We offer comprehensive services to help you solve your challenges and are highly committed and always ready to discuss your needs during a personal visit - at any time and worldwide.

Therefore, do not hesitate to contact us to learn more! We take pride in providing high-quality customer service.



Theis Philip Jensen
President
+45 4314 7700
tpj@ngi-global.com

Gerhard Froebus
Founder
+49 (170) 12 65 879
gfr@ngi-global.com

Peter Nyholm Jørgensen
Head of Application Engineering
+45 4314 0103
pnj@ngi-global.com

Michael van Meegen
Sales Manager, Germany
+49 (151) 46 47 73 48
mim@ngi-global.com

Lutz Priebe
Area Sales Manager, Germany
+49 (2433) 96422-906
lpr@ngi-global.com

Mathias Kjærsgaard Sørensen
Global Sales Manager
+45 38 41 75 29
+45 20 98 60 14
mks@ngi-global.com

Johann Frizler
Senior Application Engineer
+49 (2433) 96 42 29 02
jof@ngi-global.com

Matyas Pentek
Application Engineer
+45 48 88 11 94
mpe@ngi-global.com

Chris Haugh
Applications Engineer, US & Canada
+1 (773) 628-4540
cch@ngi-global.com

Justin P. Caris
Product Manager, US & Canada
+1 (231) 670 5778
jpc@ngi-global.com

Invitation to innovation

Highly competent sales force

Reliable and inventive supplier

Our extensive experience and technical understanding let us, and our customers, navigate complex challenges with clarity and wisdom.

We are always thinking ahead and investing in innovation to ensure that clients have access to the best and most forward-thinking technologies available.

Contact us to learn how you can maximize space without sacrificing a thing!

Thanks for your interest

Go to ngi-global.com/ngi-compact-drum-motor/