

## DRIVE AND CONTROL TECHNOLOGY

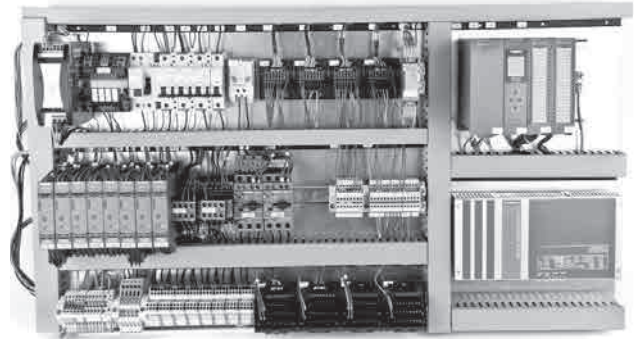
## ELECTRICAL DESIGN, SWITCH CABINET PRODUCTION, SOFTWARE DEVELOPMENT AND VISUALIZATION

## Comprehensive solutions from a single source

From problem analysis to commissioning: we not only offer proven components for plant construction and automation technology, but also project and implement individual overall concepts for material flow and assembly technology with our experienced team. In this way, resources are used in a targeted and effective manner. The basis for this is our flexible modular system consisting of profiles, linear technology and elements for ergonomic workplace design. These are supplemented by pneumatic and control technology components as well as conveyor systems, workpiece carrier transport systems and drives. From these parts, experienced specialists create modules which then grow together to form complete automation solutions for very individual tasks. Our goal is to develop the optimum solution for every task. Already in the planning phase, our customers benefit from our cross-industry experience. From the initial concept to commissioning, you will be expertly and seamlessly accompanied by our team.

## Electrical constructions

The basis of the electrical design is the planning of the hardware. Thanks to our experience with tasks from a wide variety of industrial sectors and our many years of cooperation with all capable manufacturers, we are able to select the optimum configuration for the respective task. We create the hardware plans with the most modern CAD software E-Plan Electric P8. A meaningful documentation is thus generated for each development. As a rule, we create control concepts on a modular basis with decentralized intelligence. Different bus systems such as ProfiNet or I/O Link are used according to the requirements of our customers and the task at hand. Our specialists take over the design of the drives, taking into account the economic efficiency and the mechanics used. State-of-the-art servo technology with integrated safety functions is standard in our systems.



## Switch cabinet production

Switch cabinets are assembled and wired in-house by our specialists according to the specifications of the electrical planning and approval by our customers. An intensive in-house functional test with the latest test equipment guarantees the quality and safe functioning of our systems.



## DRIVE AND CONTROL TECHNOLOGY

**Software development**

The sequence programs of our systems are created for PLC or PC control. Programming is carried out by our specialists using Simatic Step 7 and the TIA Portal according to IEC standards. Manufacturer independent CoDe-Sys programming is also possible.

The integration of our complete solutions into the customer's existing ERP can also be realized on request.

**Visualization - safe operation and monitoring**

Clear mapping of the control processes is an indispensable prerequisite for safe operation of the system. With WinCC flexible we create user interfaces that not only visualize the process, but also visually signal error messages or display help texts that are easy for the operator to understand. Our mobile HMI panels make it much easier to operate and set up complex systems. With different user levels the visualization can be activated and adapted according to the respective logged in user.

....Your partner for the complete conception:

- Consultation
- Planning
- Mechanical and electrical engineering
- Software development and visualization
- Commissioning
- CE compliant design
- Documentation
- Service such as remote maintenance

DRIVE UNITS

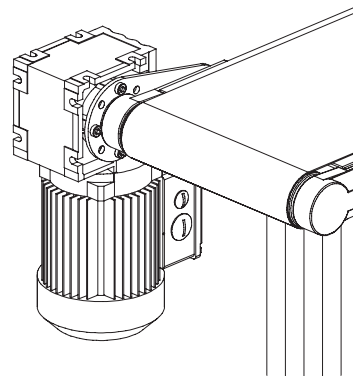
PLUG-ON DRIVE UNIT SUITABLE FOR CONVEYOR BELT SERIES 45\*

Technical Data

- Nominal voltage 230 / 400 V
- 50 Hz
- Protection IP 54
- Weight ca. 6kg

For attachment to a drum bearing 45, a torque arm WA 10 **part no. 295040/0** is required.

Optionally available with holding brake or thermocouple, also with different position of the terminal box and cable input (data sheets on request)



| Type               | Part no.  | Power [W] | Output speed | Output torque | Conveyor belt 45<br>Conveyor speed | Center drive KR<br>Belt speed |
|--------------------|-----------|-----------|--------------|---------------|------------------------------------|-------------------------------|
| WA10 DT56 M4 - 17  | 33.0015/0 | 90        | 17 U/min     | 20 Nm         | 2,6 m/min                          | 2,4 m/min                     |
| WA10 DT56 M4 - 22  | 33.0016/0 | 90        | 22 U/min     | 18 Nm         | 3,4 m/min                          | 3,1 m/min                     |
| WA10 DT56 M4 - 33  | 33.0017/0 | 90        | 33 U/min     | 15 Nm         | 5,1 m/min                          | 4,6 m/min                     |
| WA10 DT56 L4 - 53  | 33.0023/0 | 120       | 53 U/min     | 15 Nm         | 8,3 m/min                          | 6,1 m/min                     |
| WA10 DT56 L4 - 67  | 33.0018/0 | 120       | 67 U/min     | 13 Nm         | 10,5 m/min                         | 7,5 m/min                     |
| WA10 DT56 L4 - 79  | 33.0019/0 | 120       | 79 U/min     | 11 Nm         | 12,4 m/min                         | 11,2 m/min                    |
| WA10 DT56 L4 - 127 | 33.0020/0 | 120       | 127 U/min    | 7,7 Nm        | 19,9 m/min                         | 18,0 m/min                    |
| WA10 DT56 L4 - 159 | 33.0021/0 | 120       | 159 U/min    | 6,3 Nm        | 24,9 m/min                         | 22,5 m/min                    |

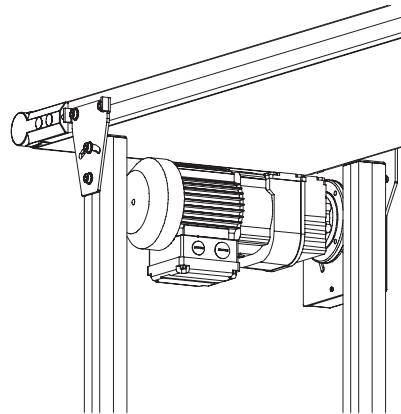
\* from this motor series, other services and translations are available on request.

FLANGED GEAR MOTOR SUITABLE FOR MOTOR ATTACHMENT KIT 45\* Ø20

Technical Data

- Nominal voltage 230 / 400 V
- 50 Hz
- Protection IP 54
- Weight ca. 7 - 9 kg

Optionally available with holding brake, thermocouple or external fan, also with different position of terminal box and cable input (data sheets on request)



| Type            | Part no.  | Power [W] | Output speed | Output torque | Kit engine attachment 45<br>Conveyor Speed |
|-----------------|-----------|-----------|--------------|---------------|--|
| DGM-120-17 / F  | 33.0086/0 | 120       | 17 U/min     | 68 Nm         | 3,3 m/min                                  |
| DGM-120-31 / F  | 33.0087/0 | 120       | 31 U/min     | 37 Nm         | 6,1 m/min                                  |
| DGM-120-47 / F  | 33.0088/0 | 120       | 47 U/min     | 24 Nm         | 9,2 m/min                                  |
| DGM-180-61 / F  | 33.0089/0 | 180       | 61 U/min     | 28 Nm         | 11,9 m/min                                 |
| DGM-180-79 / F  | 33.0090/0 | 180       | 79 U/min     | 22 Nm         | 15,5 m/min                                 |
| DGM-250-92 / F  | 33.0091/0 | 250       | 92 U/min     | 26 Nm         | 18,0 m/min                                 |
| DGM-370-123 / F | 33.0092/0 | 370       | 123 U/min    | 29 Nm         | 24,1 m/min                                 |
| DGM-370-153 / F | 33.0093/0 | 370       | 153 U/min    | 22 Nm         | 30,0 m/min                                 |

\* From this motor series, other services and translations are available on request.

## DRIVE UNITS

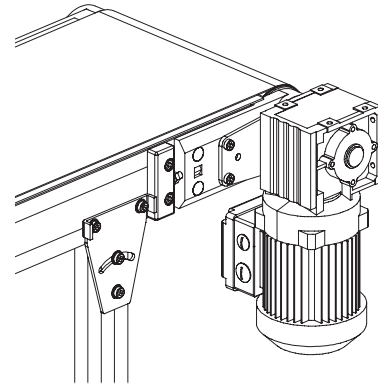
## PLUG-ON DRIVE UNIT SUITABLE FOR CONVEYOR BELT SERIES 90\*

## Technical Data

- Nominal voltage 230 / 400 V 50 Hz
- Protection IP 54
- Weight ca. 7 - 13kg

For attachment to a drum bearing 90 a torque arm is required. Torque arm WA20 (part no. 295036/0) or torque arm WA30 (part no. 295037/0).

Optionally available with holding brake, thermocouple or external fan, also with different position of terminal box and cable input (data sheets on request)



| Type         | Part no.  | Power [W] | Output speed | Output torque | Conveyor belt 90<br>Conveyor speed | Torque arm |
|--------------|-----------|-----------|--------------|---------------|------------------------------------|------------|
| DSGM 180-15  | 33.0080/0 | 180       | 15 U/min     | 48 Nm         | 4,4 m/min                          | WA20       |
| DSGM 250-27  | 33.0081/0 | 250       | 27 U/min     | 44 Nm         | 8,0 m/min                          | WA20       |
| DSGM 370-35  | 33.0082/0 | 370       | 35 U/min     | 63 Nm         | 10,4 m/min                         | WA30       |
| DSGM 370-50  | 33.0083/0 | 370       | 50 U/min     | 49 Nm         | 14,9 m/min                         | WA30       |
| DSGM 370-71  | 33.0084/0 | 370       | 71 U/min     | 38 Nm         | 21,1 m/min                         | WA30       |
| DSGM 550-115 | 33.0085/0 | 550       | 115 U/min    | 32 Nm         | 34,3 m/min                         | WA30       |

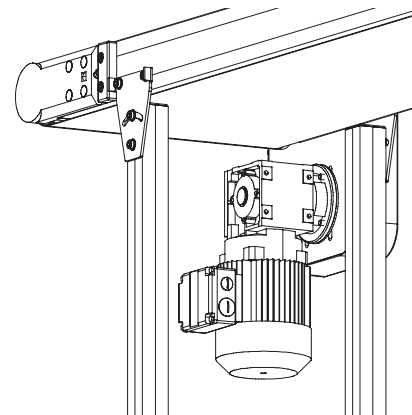
\* From this motor series, other services and translations are available on request.

## FLANGED GEAR MOTOR SUITABLE FOR MOTOR ATTACHMENT KIT 90\*

## Technical Data

- Nominal voltage 230 / 400 V
- 50 Hz
- Protection IP 54
- Weight ca. 7 - 13 kg

Optionally available with holding brake, thermocouple or external fan, also with different position of the terminal box and cable input (data sheets on request)



| Type               | Part no.  | Power [W] | Output speed | Output torque | Kit engine attachment<br>Conveyor speed | Center drive 3R<br>Belt speed |
|--------------------|-----------|-----------|--------------|---------------|---|-------------------------------|
| DSGM 180 - 15 / F  | 33.0080/1 | 180       | 15 U/min     | 48 Nm         | 4,4 m/min                               | 3,8 m/min                     |
| DSGM 250 - 27 / F  | 33.0081/1 | 250       | 27 U/min     | 44 Nm         | 8,0 m/min                               | 6,8 m/min                     |
| DSGM 370 - 35 / F  | 33.0082/1 | 370       | 35 U/min     | 63 Nm         | 10,4 m/min                              | 8,8 m/min                     |
| DSGM 370 - 50 / F  | 33.0083/1 | 370       | 50 U/min     | 49 Nm         | 14,9 m/min                              | 12,6 m/min                    |
| DSGM 370 - 71 / F  | 33.0084/1 | 370       | 71 U/min     | 38 Nm         | 21,1 m/min                              | 17,8 m/min                    |
| DSGM 550 - 115 / F | 33.0085/1 | 550       | 115 U/min    | 35 Nm         | 34,3 m/min                              | 28,9 m/min                    |

\* From this motor series, other services and translations are available on request.

## FREQUENCY CONVERTER FU 370 PP

## Technical Data

- Built-in on / off switch
- Mode 1Q (without brake - chopper)
- Mains overvoltage and undervoltage monitoring
- Engine load monitoring
- Short-circuit monitoring phase / phase, phase / earth
- Adjustable acceleration and deceleration ramp
- Adjustable voltage boost at low output frequency
- Power cord with earthing contact plug 230 V and motor cable, ELPUR, 5 m long with earthing contact plug, colour orange
- EMC filter class B
- IP 66/ NEMA-4X-casing
- Equipped as standard with an operator panel that allows operation and setup of the drives without the need for additional equipment
- Output power motor side max. Motor power 0.37 kW
- Output rated current max. 2.3 A
- Output voltage 3 x 20 - 250 V
- Overload 150% for 60 seconds
- Input voltage mains side rated voltage 230V
- Input current 6,7 A
- Power frequency 50 - 60 Hz
- Ambient temperature -10 ° C to + 40 ° C
- Heat loss at rated power 11 W
- Dimensions H / W / D: 232 x 161 x 179 mm



ART.-NR. 33.0126/0

## MAGNETIC MEASURING SYSTEM

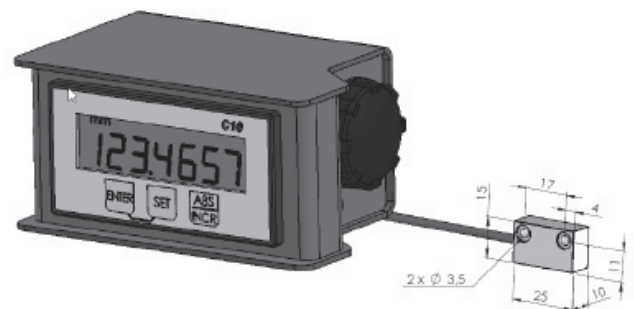
## MAGNETIC MEASURING SYSTEM ML

Length or distance measurement is one of the standard tasks in mechanical engineering and construction. A modern and reasonably priced solution is the ML magnetic length measuring system with magnetic tape, magnetic sensor and measuring display. The advantages of this system are mainly in the direct measuring method, the wear-free, the simple and inexpensive installation and high possible accuracy.

At the heart of this measuring system is the magnetic tape, a flexible plastic tape filled with magnetic particles. This is glued to the profile surface and protected with a stainless steel strip, also glued. About this band is at a small distance, but non-contact, guided along a magnetic sensor and thus scanned the magnetic field. Movement direction and increments are then derived from these scanning signals and further processed in a controller or displayed by means of a measuring display.

### LCD meter with battery operation incl. magnetic sensor (Part No. 33.0038/0)

- 6-digit LCD display, with 14mm digit height
- Surface-mount housing, aluminum powder-coated RAL 5010, dimensions W = 125mm, H = 65mm, depth = 85mm
- Power supply battery C (baby 1,5V)
- Battery compartment on the right side
- With attached magnetic sensor (cable length 0.5m)
- for mounting on stop slides via brackets
- Operating temperatur -5 to +45° C
- Travel speed max. 3m / sec, counting frequency up to 1MHz
- Actual value memory / offset value, selectable
- Absolute - incremental - conversion
- Measuring tolerance  $\pm 0,1$  mm/m



### Measuring display for 230V connection Part no. 33.0036/0

- 6-digit LED display, with 14mm digit height
- Surface-mount housing, aluminum powder-coated RAL 5010, dimensions W = 115mm, H = 70mm, depth = 120mm
- Power supply 230V AC pluggable.
- Sensor connection via SuB-D 9-pin. pluggable, TTL 5VDC
- Operating temperatur -5 to +45° C
- Travel speed max. 3m / sec, counting frequency up to 1MHz
- Actual value memory / offset value, selectable
- Magnetic sensor Part no. 33.0037/0 please order separately, specifying the desired cable length

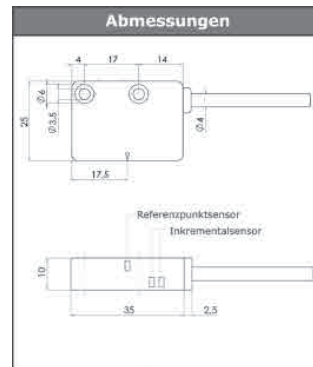


MAGNETIC MEASURING SYSTEM



**Magnetic sensor with integrated evaluation unit Part no. 33.0037/0**

- Non-contact measuring scanner with integrated digital evaluation electronics.
- Detecting the magnetic signals, with index pulse, resolution 10µm
- In conjunction with the above displayed measuring display
- suitable for MiniTec profiles, connection cable integrated (2 m) and D-Sub connector (longer cable lengths on request up to 20 m).



**Magnetic Tape Part no. 33.0028/0**

Technical Data / delivery

- Magnetic tape for sticking to MiniTec profiles incl. Stainless steel masking tape
- Length max. 80 m, width 10 mm (option: Band width 5 mm for gluing into the profile groove)

Application

- For all MiniTec linear guides with rails made of system profiles
- Length measuring stops
- Material feed

Mounting

- Stick magnetic tape to profile surface, glue masking tape onto magnetic tape.
- Attach sensor to carriage
- Distance to the magnetic tape: 1.1 ± 0.9 mm

**Please specify desired magnetic tape length (round up to full meters)**

