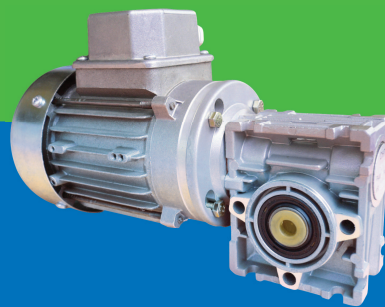


Drive Technology



About us

MSF-Vathauer Antriebstechnik GmbH & Co KG produces since 1978 mechanical, electrical and electronical drive technology in Detmold (Headquarters) and Oborniki (Poland), In this time MSF-Vathauer developed itselfes to the technology leader for decentralized drives.

MSF-Vathauer provides not only mechanical drives technology to its customers. The focus is upon the development, manufacturing and sales of electronical drives.

Further provides MSF innovative solutions for saving energy resources like heat due to heat recovery with rotary heat exchanger and intelligent drives for conveying systems.

We are able to provide our customers a fast, flexible and suitable technical solution due to our high in-house production depth.

On approximately 6000 m² MSF-Vathauer research, develop and produce devices for the measurement and test engineering, for the control technique and for the drive technology.

Highly trained and motivated teams in our research and development department and at our production lines as soon as many years experience with the development and customising of drive technology guarantee your success.

We are train our employees, representatives and customers within own training facilities continuously.

Our own EMC-Laboratory guarantees a high EMC safety standard for all customised and standard devices.

We are looking forward to close and successful cooperation.

MSF-Vathauer Antriebstechnik GmbH & Co KG

Frequency converter VECTOR 20



Frequency converter VECTOR 20

The Vector 20 is a Frequency Converter with a modulated attachment, which offers an excellent market value for goods by using in complex applications.

With extra integrated modules it can be alternated for a controlled drive with vector-control or upgraded to a positioning type. The device shows a protection class of IP 20.

The Frequency Converter VECTOR 20 is available from 0.09KW to 3KW single phase. And 0.75KW till 3 KW three-phase.

Due to two different installation positions "A" and "B" the Frequency Converter can be integrated in any controlled enclosure.

Following pluggable modules are available

- RS 232 or RS 485 interface module
- USB interface module
- I/O interface module
- Positioning module
- CANopen bus module
- Profi Bus module
- Ethernet module
- Blue-tooth module



Plain text LC-Display

This plain text display allows to parameterize the converter and adjust all parameter. Further the converter can be controlled by this display with only two push buttons even when the application does not require digital inputs.

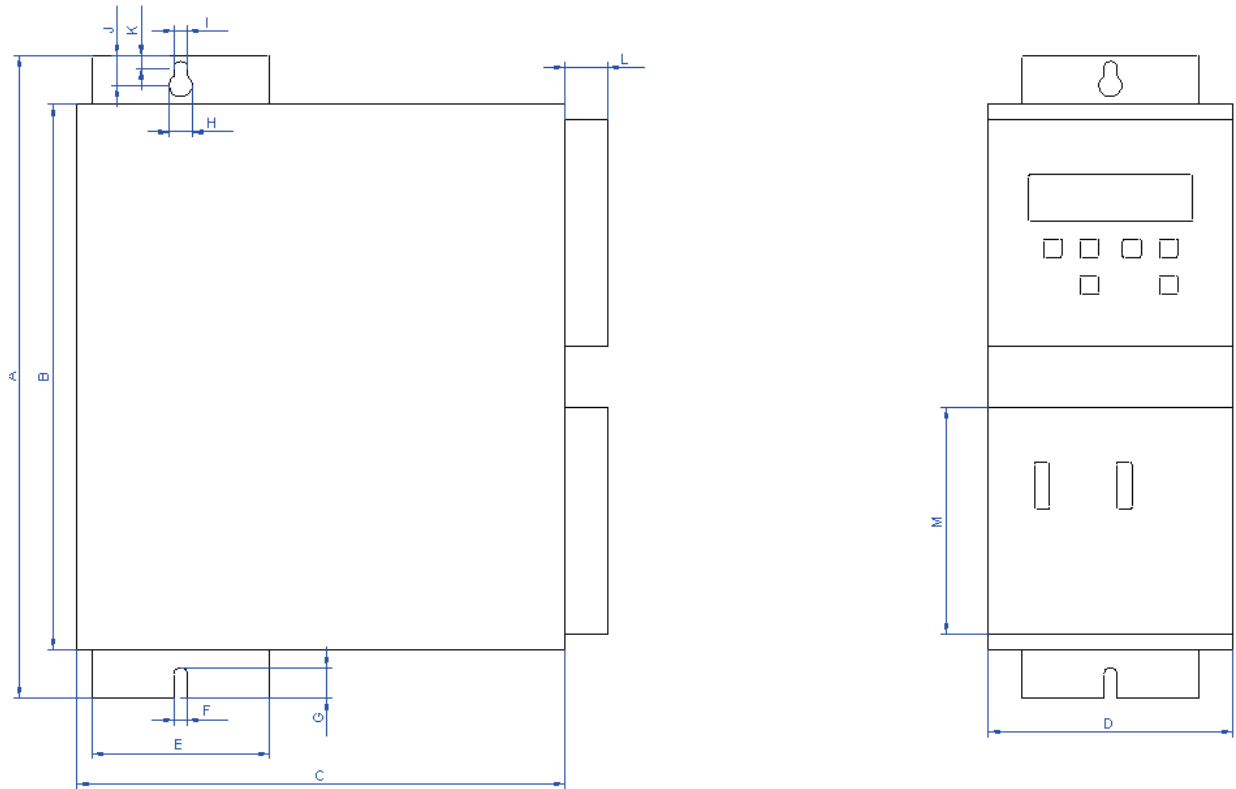
Frequency converter VECTOR 20

Type	Vector 90	Vector 120	Vector 180	Vector 250	Vector 370
Output power	0,2 kVA	0,25 kVA	0,35 kVA	0,45 kVA	0,85 kVA
Motor power	0,09 kW	0,12 kW	0,18 kW	0,25 kW	0,37 kW
Rated current	1 A	1,1 A	1,3 A	1,5 A	2,2 A
Output voltage	3 x 230 V	3 x 230 V	3 x 230 V	3 x 230 V	3 x 230 V
Output frequency	0 - 400 Hz	0 - 400 Hz	0 - 400 Hz	0 - 400 Hz	0 - 400 Hz
Line In / Motor filter	internal	internal	internal	internal	internal
Rated voltage	230 V	230 V	230 V	230 V	230 V
Protection class	IP 20	IP 20	IP 20	IP 20	IP 20
Ambient temperature	40 °C	40 °C	40 °C	40 °C	40 °C

Type	Vector 550	Vector 750	Vector 1100	Vector 1500	Vector 2200
Output power	1,3 kVA	1,6 kVA	2,2 kVA	2,7 kVA	3,9 kVA
Motor power	0,55 kW	0,75 kW	1,1 kW	1,5 kW	2,2 kW
Rated current	3,4 A	4,0 A	5,5 A	7,0 A	10 A
Output voltage	3 x 230 V	3 x 230 V	3 x 230 V	3 x 230 V	3 x 230 V
Output frequency	0 - 400 Hz	0 - 400 Hz	0 - 400 Hz	0 - 400 Hz	0 - 400 Hz
Line In / Motor filter	intern	intern	intern	intern	intern
Rated voltage	230 V	230 V	230 V	230 V	230 V
Protection class	IP 20	IP 20	IP 20	IP 20	IP 20
Ambient temperature	40 °C	40 °C	40 °C	40 °C	40 °C

Type	Vector 750 / 3	Vector 1100 / 3	Vector 1500 / 3	Vector 2200 / 3	Vector 3000 / 3
Output power	1,6 kVA	2,0 kVA	2,8 kVA	4,0 kVA	5,3 kVA
Motor power	0,75 kW	1,1 kW	1,5 kW	2,2 kW	3 kW
Rated current	2,3 A	3,5 A	4,1 A	5,8 A	7,6 A
Output voltage	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V
Output frequency	0 - 400 Hz	0 - 400 Hz	0 - 400 Hz	0 - 400 Hz	0 - 400 Hz
Line In / Motor filter	Intern	Intern	Intern	Intern	Intern
Rated voltage	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V
Protection class	IP 20	IP 20	IP 20	IP 20	IP 20
Ambient temperature	40 °C	40 °C	40 °C	40 °C	40 °C

Frequency converter VECTOR 20



Type	Dimensions VECTOR 20			
	VECTOR 090 - 750	VECTOR 1100 - 2200	VECTOR 750/3	VECTOR 1100/3 - 3000/3
A	185	236	210	236
B	159	205	178	205
C	160	160	160	160
D	80	80	80	80
E	58	58	58	58
F	4,5	4,5	4,5	4,5
G	10	10	10	10
H	7,5	7,5	7,5	7,5
I	4,5	4,5	4,5	4,5
J	9,5	9,5	9,5	9,5
K	4,2	4,2	4,2	4,2
L	14	14	14	14
M	74	74	74	74

subject to qualifications

Snap-on modules for Frequency converter VECTOR



Key pad with plain text display

This snap on key pad is used for the parameterization of the Frequency Converter VECTOR 20.

The key pad contains a plain text display to make the parameterization much easier. All parameter are displayed in a menu and can be change via arrow keys.

The saving process can start with the "OK" button. The user can controll the VECTOR 20 via the integrated "Start"- and "Stop" button.

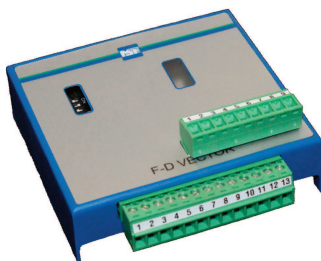


I / O - Module

The I/O module provides digital and analog In- and Outputs. This module must be connect on each VECTOR 20 to control the device via the digital In- and Outputs.

The module provides following I/O's :

5 digital Inputs, 1 digital Output, 1 analog Output, LED-Status display



Positioning - Module

The positioning module provides the option to control standard asynchronous motors with an integrated incremental encoder and control an AC-Servo drive with feedback option. Several positions can be changed via a PC-software or a superordinate controller.



Communication - Module

The VECTOR 20 communicates with a PC via this module.

All parameters can be change via a RS 232 interface module or a USB-module. Further some controlling tasks can be realised between PC and VECTOR 20.

For a Ethernet-Network, there is a Ethernet-module available to communicate with the Frequency Converter via a TCP/IP Ethernet-network.

All parameter changes of VECTOR 20 can also be realised with the snap on blue tooth module.

- RS 232
- USB
- Ethernet
- Blue tooth

Frequency converter VECTOR eco / 1-phase



Frequenzumrichter VECTOR eco

The Frequency Converter VECTOR eco 44 was developed for flat conveyor, climbing conveyor, hopper, break conveyor, Z-conveyor, small conveyors and roller conveyor.

The compact design enables an installation on any conveyor or machines.

The protection class IP 44 protects the inside electronic and provides a broad operational area.

By means of its integrated control elements the conveyor speed can be adjust or the equipment be switched off by an isolator.

An additional START / STOP input is integrated.

A comprehensive thermal protection of the motor is attainable by means of in the motor inserted temperature sensors (e.g. PTC resistors or bimetal switches).

Accessories

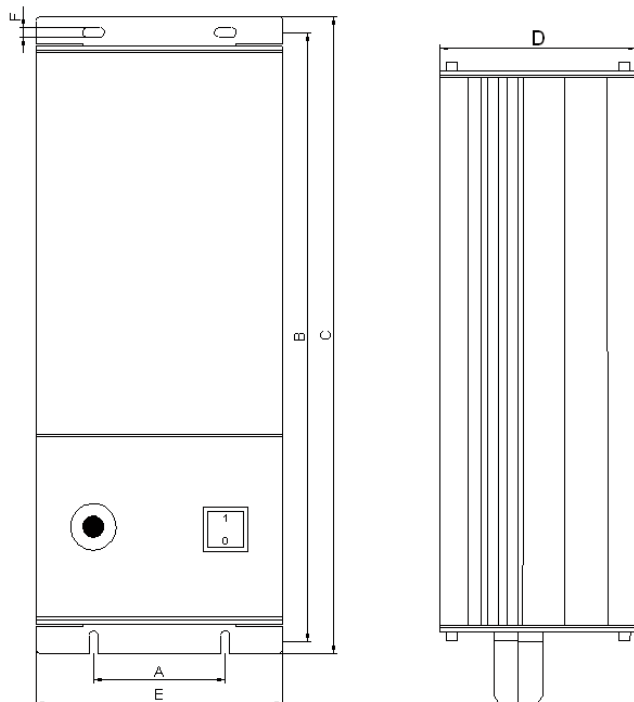
- Connected Line In cable
- Connected motor cable
- Connected shielded control cable
- Integrated emergency stop button
- Integrated undervoltage release switch

Further operation units on request.

Frequency converter VECTOR eco / 1-phase

Typ	VECTOR eco 090	VECTOR eco 120	VECTOR eco 180	VECTOR eco 250	VECTOR eco 370	VECTOR eco 550	VECTOR eco 750
Output power	0,2 kVA	0,33 kVA	0,45 kVA	0,55 kVA	0,85 kVA	1,3 kVA	1,6 kVA
Motor power	0,09 kW	0,12 kW	0,18 kW	0,25 kW	0,37 kW	0,55 kW	0,75 kW
Rated current	1 A	1,1 A	1,3 A	1,5 A	2,2 A	3,4 A	4 A
Output voltage	230V	230V	230V	230V	230V	230V	230V
Output frequency	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz	50 Hz
Line In / Motor filter	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44
Ambient temperature	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C	40 °C

subject to qualifications



Type	Dimensions VECTOR eco
A	65 mm
B	237 mm
C	250 mm
D	70 mm
E	112 mm
F	5 mm

subject to qualifications

Frequency converter VECTOR 54 / 1-phase



Frequency converter VECTOR 54 / 1-phase

The Vector 54 is a Frequency Converter with a modulated attachment, which as a standard offers excellent market value for goods by using simple applications.

With extra integrated modules it can be alternated for a controlled drive with vector-control or upgraded to a positioning type. The device offers a protection class of IP 54.

The Frequency Converter is available from 0.09KW to 0.75KW single-phase.

The closed construction of the VECTOR 54 execution meets the increasing demand for decentralised driving components.

For the user this will mean

- No additional control enclosure
- Fast installation
- High protection class IP 54
- A saving of space
- Reduced size of control enclosure
- Integrated operation elements (Main switch, Emergency stop button)
- Various possible mounting arrangements
- Integrated RS 232 or RS 485 interface
- Integrated I/O module
- Integrated On/Off-switch and set point potentiometer
- Integrated key pad

Especially to your application we implement following options

- Positioning module
- CANopen bus module
- Profi bus module
- Ethernet module
- Emergency stop button with undvoltage release switch
- Tailored Line In cable and motorcable
- Connectors for Line In, Motors and I/O's

Frequency converter VECTOR 54 / 1-phase



Frequency converter VECTOR 54 / 1-phase

The Vector 54 is a Frequency Converter with a modulated attachment, which as a standard offers excellent market value for goods by using simple applications.

With extra integrated modules it can be alternated for a controlled drive with vector-control or upgraded to a positioning type. The device offers a protection class of IP 54.

The closed construction of the VECTOR 54 execution meets the increasing demand for decentralised driving components.

This converter is available from 1.1 kW till 2.2 kW 1-phase.

Advantages for the user

- No additional switch enclosure
- Direct mounting onto machines
- High protection class IP54
- Minimizing of switch enclosures
- Integrated operating elements
- Integrated signal buses (Profibus DP, AS-interface, etc)
- Integrated RS 232 interface
- Integrated main switch and set point potentiometer

Especially to your application we implement following options

- Positioning module
- CANopen bus module
- Profi bus module
- Ethernet module
- Emergency stop button with undvoltage release switch
- Tailored Line In cable and motorcable
- Connectors for Line In, Motors and I/O's

Frequency converter VECTOR 54 / 1-phase

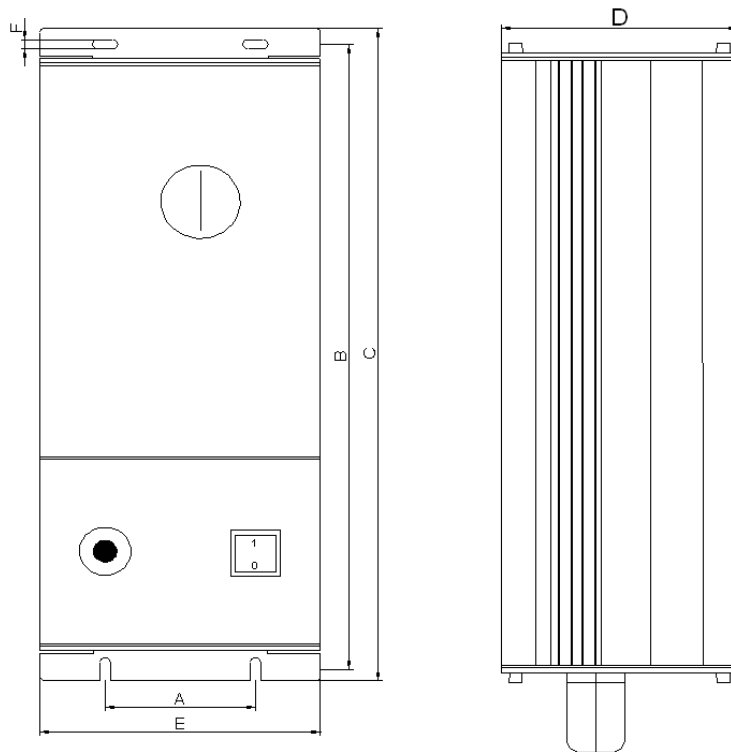
Type	Vector 54 / 090	Vector 54 / 120	Vector 54 / 180	Vector 54 / 250
Output power	0,2 kVA	0,33 kVA	0,45 kVA	0,55 kVA
Motor power	0,09 kW	0,12 kW	0,18 kW	0,25 kW
Rated current	1 A	1,1 A	1,3A	1,5 A
Output voltage	3 x 230 V	3 x 230 V	3 x 230 V	3 x 230 V
Output frequency	0 – 400 Hz	0 – 400 Hz	0 – 400 Hz	0 – 400 Hz
Line In / Motor filter	Intern	Intern	Intern	Intern
Rated voltage	230 V	230 V	230 V	230 V
Protection class	IP 54	IP 54	IP 54	IP 54
Ambient temperature	0 – 40 °C	0 – 40 °C	0 – 40 °C	0 – 40 °C

Type	Vector 54 / 370	Vector 54 / 550	Vector 54 / 750
Output power	0,85 kVA	1,3 kVA	1,6 kVA
Motor power	0,37 kW	0,55 kW	0,75 kW
Rated current	2,2 A	3,4 A	4 A
Output voltage	3 x 230 V	3 x 230 V	3 x 230 V
Output frequency	0 – 400 Hz	0 – 400 Hz	0 – 400 Hz
Line In / Motor filter	Intern	Intern	Intern
Rated voltage	230 V	230 V	230 V
Protection class	IP 54	IP 54	IP 54
Ambient temperature	0 – 40 °C	0 – 40 °C	0 – 40 °C

subject to qualifications

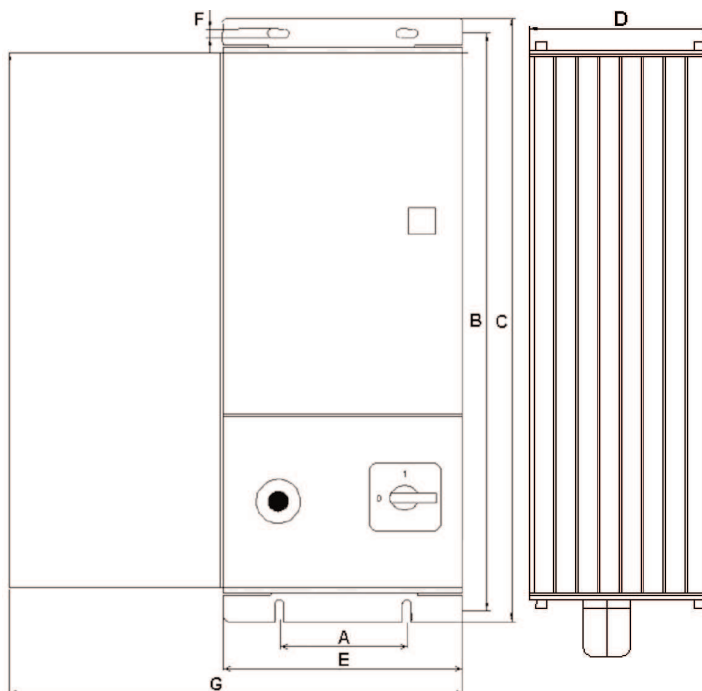
Type	Vector 54 / 1100	Vector 54 / 1500	Vector 54 / 2200
Output power	0,2 VA	0,33 VA	0,45 VA
Motor power	1,1 kW	1,5 kW	2,2 kW
Rated current	4,5 A	6,0 A	8,7A
Output voltage	3 x 230 V	3 x 230 V	3 x 230 V
Output frequency	0 – 400 Hz	0 – 400 Hz	0 – 400 Hz
Line In / Motor filter	Intern	Intern	Intern
Rated voltage	230 V	230 V	230 V
Protection class	IP 54	IP 54	IP 54
Ambient temperature	0 – 40 °C	0 – 40 °C	0 – 40 °C

Frequency converter VECTOR 54 / 1-phase



Type	Dimensions VECTOR 54 0,09 - 0,75 kW
A	65 mm
B	290 mm
C	312 mm
D	90 mm
E	112 mm
F	5 mm

subject to qualifications



Type	Dimensions VECTOR 54 1,1 - 2,2 kW
A	65 mm
B	340 mm
C	350 mm
D	90 mm
E	112 mm
F	5 mm
G	210mm

subject to qualifications

Frequency converter VECTOR 54 / 3-phase



Frequency converter VECTOR 54 / 3-phase

The Vector 54 is a Frequency Converter with a modulated attachment, which as a standard offers excellent market value for goods by using simple applications.

With extra integrated modules it can be alternated for a controlled drive with vector-control or upgraded to a positioning type. The device offers a protection class of IP 54.

The closed construction of the VECTOR 54 execution meets the increasing demand for decentralised driving components.

This converter is available from 0.75 kW till 3.0 kW 3-phase.

Advantages for the user

- No additional switch enclosure
- Direct mounting onto machines
- High protection class IP54
- Minimizing of switch enclosures
- Integrated operating elements
- Integrated signal buses (Profibus DP, AS-interface, etc)
- Integrated RS 232 interface
- Integrated main switch and set point potentiometer

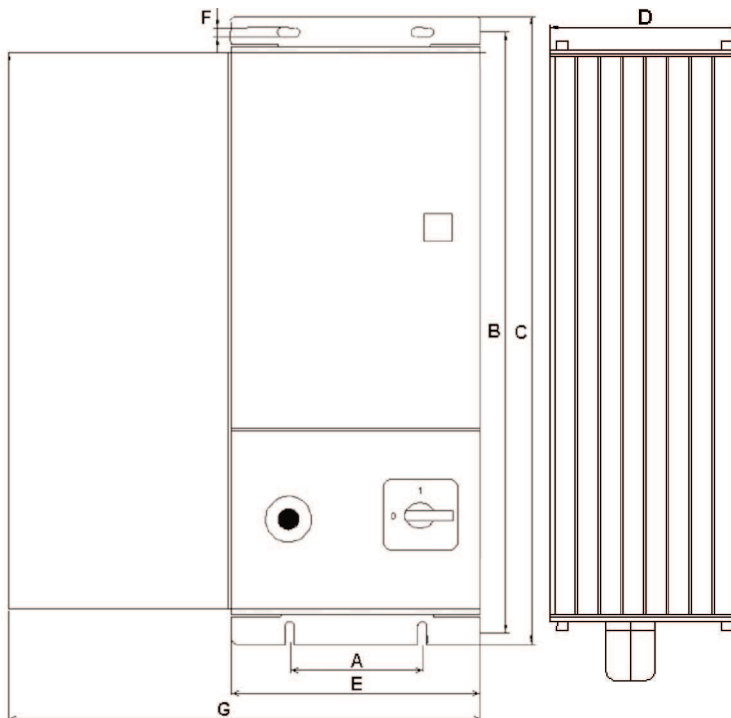
Especially to your application we implement following options

- Positioning module
- CANopen bus module
- Profi bus module
- Ethernet module
- Emergency stop button with undervoltage release switch
- Tailored Line In cable and motorcable
- Connectors for Line In, Motors and I/O's

Frequency converter VECTOR 54 / 3-phase

Type	Vector 54 750	Vector 54 1100	Vector 54 1500	Vector 54 2200
Output power	2,3 A	3,5 A	4,1 A	5,8 A
Motor power	0,75 kW	1,1 kW	1,5 kW	2,2 kW
Rated current	4 A	4,5 A	6,0 A	8,7A
Output voltage	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V
Output frequency	0 – 400 Hz	0 – 400 Hz	0 – 400 Hz	0 – 400 Hz
Line In / Motor filter	Internal	Internal	Internal	Internal
Rated voltage	400 V	400 V	400 V	400 V
Protection class	IP 54	IP 54	IP 54	IP 54
Ambient temperature	0 – 40 °C	0 – 40 °C	0 – 40 °C	0 – 40 °C

subject to qualifications



Type	Dimensions VECTOR 54
A	65 mm
B	340 mm
C	350 mm
D	90 mm
E	112 mm
F	5 mm
G	210mm

subject to qualifications

Single-Phase-Regulator SPR



Single - Phase - Regulator SPR

- Speed control of single-phase motors
- Robust aluminium casing
- Protection class IP44 or IP54
- Motortemperature monitoring
- Device temperature monitoring
- Short circuit protection
- Fast and easy operations
- Preset settings
- Integrated Line In filter

The Single-Phase-Regulator SPR was constructed for all single-phase motors with start and operation capacitor and is easy to use. The SPR is available from 0.09 kW till 1.5 kW.

By its compact design, the SPR is mountable in almost applications.

The protection class IP44 or IP54 protects its electronics for a wide range of applications.

The rotation speed of the single-phase motor is adjustable by the integrated set point potentiometer. Further the device is deactivated by the integrated main switch.

An additional digital input for START / STOP is available for external sensors.

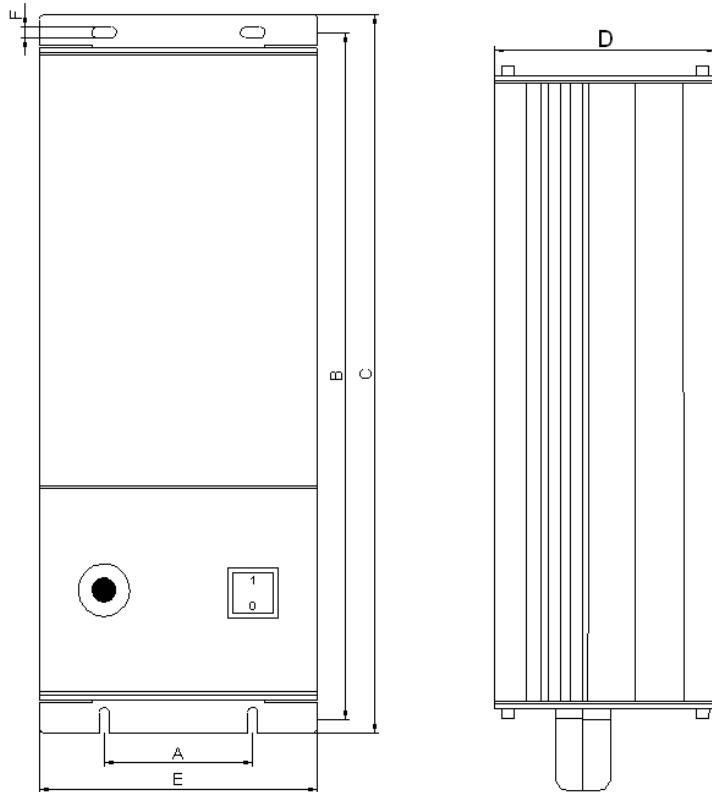
The connected motor is protected by the motor temperature monitoring if a temperature sensor was mounted. It can be a Bi-metal or thermistor.

The applications are: blower, exhauster, air conditioning

Type	SPR 090	SPR 120	SPR 180	SPR 250	SPR 370	SPR 550	SPR 750	SPR 1100	SPR 1500
Motor power	0,09 KW	0,12 KW	0,18 KW	0,25 KW	0,37 KW	0,55 kW	0,75 kW	1,1 kW	1,5 kW
Rated output current	1,1 A	1,3 A	1,5 A	2 A	2,9 A	4,2 A	5,4 A	7,4 A	9,8 A
Power supply	230 V	230 V	230 V	230 V	230 V	230 V	230 V	230 V	230 V
Protection class	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44	IP 44
Ambient temperature	0 – 40°C	0 – 40°C	0 – 40°C	0 – 40°C	0 – 40°C	0 – 40°C	0 – 40°C	0 – 40°C	0 – 40°C
Humidity	20 – 90%	20 – 90%	20 – 90%	20 – 90%	20 – 90%	20 – 90%	20 – 90%	20 – 90%	20 – 90%
Power loss	20 Watt	24 Watt	28 Watt	30 Watt	36 Watt	40 Watt	45 Watt	80 Watt	100 Watt

subject to qualifications

Single-Phase-Regulator SPR



Type	Dimensions SPR 0,09 kW - 1,5 kW
A	65 mm
B	237 mm
C	250 mm
D	70 mm
E	112 mm
F	5 mm

subject to qualifications

Three-Phase-Regulator TPR



Three - Phase - Regulator TPR

- Energy saving technology
- Easy and quick installation
- Smooth speed controller for asynchronous motors
- Potential free relay output
- Robust aluminium casing
- Lockable master switch
- Protection class IP44 or IP54
- Motor temperature monitoring
- Device temperature monitoring

The Three-Phase Regulator (TPR) is a voltage controlled a.c. power controller for continuously speed adjustments of asynchronous motors.

The load can be ohmic load (heatings, lamps) or ohmic / inductive loads (fans, blowers).

The internal control stage galvanic separated from the power supply. The internal power stage was desinged with high performed triac and TSE-wiring. Further all three phases and the direction of rotation are monitored by the TPR.

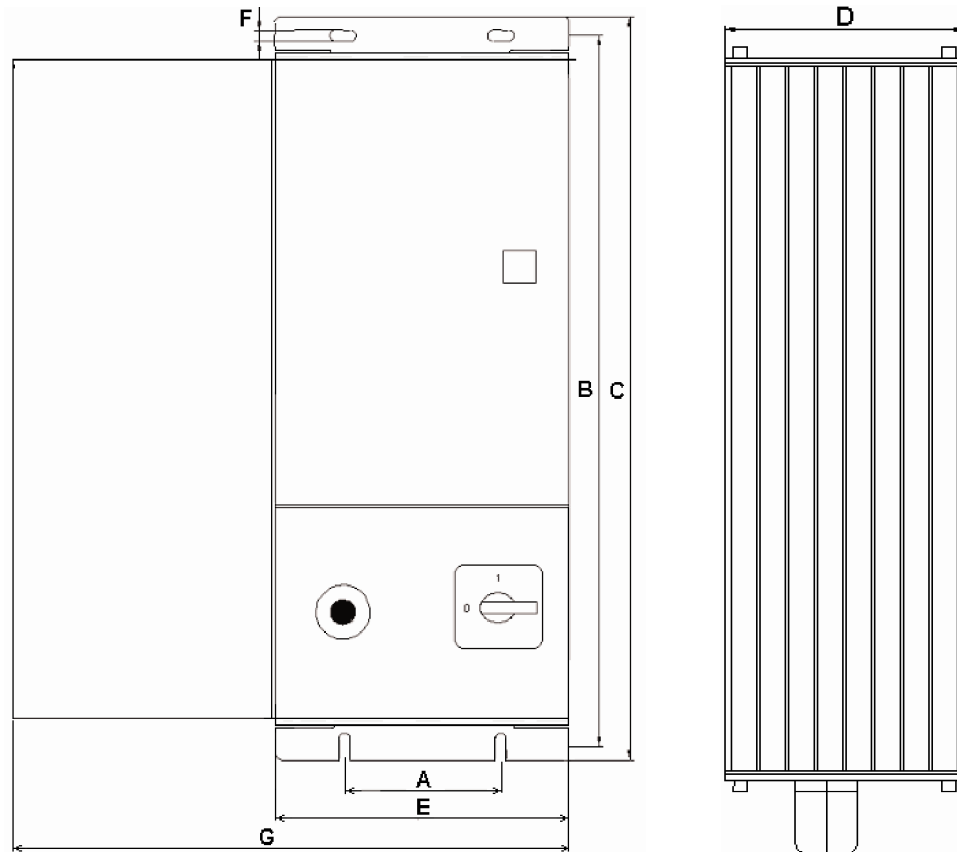
The set point is selectable by voltage +10V or by curent 0-20mA or 2-20mA.

The applications are: coils, heatings, blower, fans.

Type	TPR 090	TPR 120	TPR 180	TPR 250	TPR 370	TPR 550	TPR 750	TPR 1100	TPR 1500	TPR 2200	TPR 3000
Motor power	0,09 kW	0,12 kW	0,18 kW	0,25 kW	0,37 kW	0,55 kW	0,75 kW	1,1 kW	1,5 kW	2,2 kW	3,0 kW
Rated output current	0,3 A	0,45 A	0,6 A	0,85 A	1,1 A	1,45 A	1,85 A	2,6 A	3,5 A	5,0 A	6,6 A
Power supply	400V	400V	400V	400V	400V	400V	400V	400V	400V	400V	400V
Protection class	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54
Ambient temperature	0-40°C	0-40°C	0-40°C	0-40°C	0-40°C	0-40°C	0-40°C	0-40°C	0-40°C	0-40°C	0-40°C
Humidity	20-90%	20-90%	20-90%	20-90%	20-90%	20-90%	20-90%	20-90%	20-90%	20-90%	20-90%
Power loss	10 Watt	10 Watt	11 Watt	12 Watt	13 Watt	15 Watt	16 Watt	19 Watt	22 Watt	25 Watt	31 Watt

subject to qualifications

Three-Phase-Regulator TPR



Type	Dimension TPR
A	65 mm
B	300 mm
C	310 mm
D	90 mm
E	112 mm
F	5 mm

subject to qualifications

Digital clock timer DTSG 4



Digital clock timer DTSG 4

The digital clock timer DTSG 4 controls a 3phase drive with free available run and pause times from 000.1 - 9999 sec.

The DTSG allow to index a conveyor system with its free adjustable run and pause times. The phases are switched during zero crossing to avoid high peak loads.

A menu structure simplifies the adjustment of the working parameters by using just two keys. Moreover, an external trigger impulse may be connected for timed motor operations.

A one time release as well as repeated releases (retriggering) are possible.

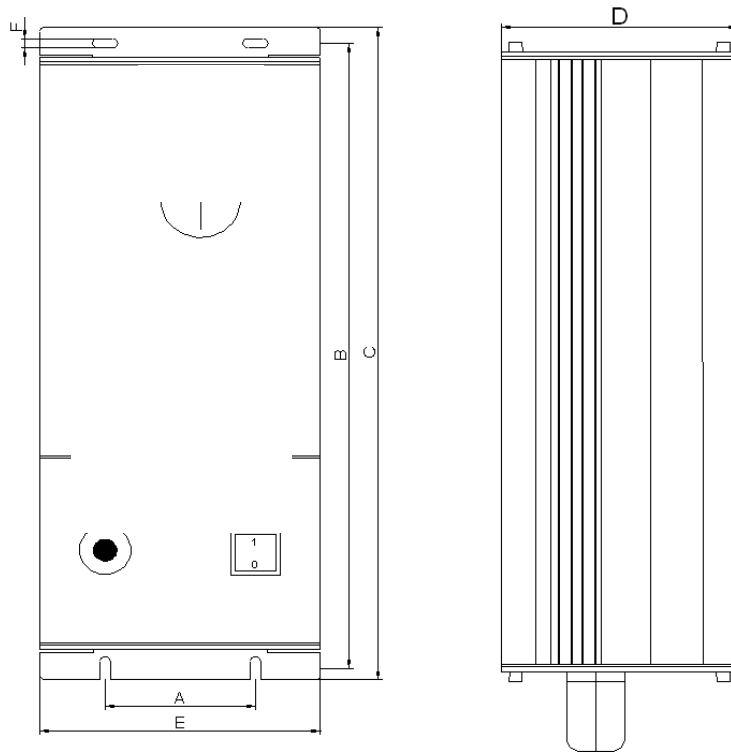
All operational parameters are stored in a nonvolatile memory. The DTSG may be installed in various positions where it will recognize an up-down position through a mercury free switch and controls the display accordingly.

The DTSG shows following features

- World wide operation of DTSG
- High EMC performance by aluminium casing and integrated EMC filter
- Protection class IP54 or IP20
- Easy wiring of Sub-D connector for trigger input
- Various mounting position
- Pausing and running time adjustable from 0,1s bis 9999 sec.
- Retrigger impulse
- Adjustable debouncing for inputs
- Input for photo electric sensor
- Input for pushbutton for continuous speed

Typ e	DTSG 4
Power supply	400 V
Output power	max. 0,75 kW
Display	7-Segment LED-Anzeige
Operation	Zweiknopf
External Input	Potentialfrei oder 24 Vdc
Additional Output	Relais
Casing	Aluminium IP20 - IP54
Dimensions L x W x H	280 x 112 x 70 mm
Connection	Kabelverschraubungen
Resolution	0,1s
Max. adjustable time	9999 s
Net filter	Integriert

Digital clock timer DTSG 4



Type	Dimension DTSG 4
A	65 mm
B	267 mm
C	280 mm
D	70 mm
E	112 mm
F	5 mm

subject to qualifications

Digital rotary disc controller



Digital rotary disc controller DRV / DRT

The DRT was developed for the controlling of a rotary disc, the DRV was developed for the controlling of a rotary distribution rack for a three phase motors.

The phases are switched during zero crossing to avoid high peak loads.

A menu structure simplifies the adjustment of the working parameters by using just two keys only.

All operational parameters are stored in a nonvolatile memory. The DRT and the DRV may be installed in various positions where it will recognize an up-down position through a mercury free switch and controls the display accordingly.

The rotary disc controller shows following features

- World wide operation of
- High EMC performance by aluminium casing and integrated EMC filter
- Protection class IP54 or IP20
- Easy wiring of Sub-D connector for trigger input
- Various mounting position
- Pausing and running time adjustable from 0,1s bis 9999 sec.
- Retrigger impulse
- Adjustable debouncing for inputs
- Input for photo electric sensor
- Input for pushbutton for continuous speed

Type	DRT / DRV
Power supply	400V (Neutral wire is necessary for logic)
Output power	max. 0.75 kW
Display	7-Segment LED-Display
Operation	Two push button
External Input	Potentialfree or 24Vdc
Additional output	Relay
Casing	Aluminium IP20 - IP 54
Dimensions LxWxH	280x112x70mm
Connection	Cable glands
Resolution	0.1s
Max. running time	9999s
Net filter	Integrated
Numbers of mould	0...999 sec.
Total numbers of cask	0...9999 sec.
Total running time of cage	0...999 sec.
Running time of conveyor	0...999 sec.
Running time of separating barrel	0...999 sec.
Sorting of bad parts	Integrated

Electronic motor strater MONOVENT for ventilation systems



Electronic motor strater MONOVENT

The MONOVENT was developed to controll th speeds of fans, blower, low preasure ventilator and high preasure ventilator.

The MONOVENT is a direct switch for asnychnous motors and switch the motor ON and OFF fully electronically.

The device controls the motor by an external 24V signal. The motor temperature is monitored by the MONOVENT due to a Bi-metall ot thermistor.

the MONVENT was type approved by TÜV-Rheinland.

The device is mountable onto an asynchronous motor by its robust aluminium casing.

A outside viewable LED signals various status of the device and motor.

Your advantages

- Type approved
- Mounting onto asynchronous motors
- Power supply: 360V - 400V +/-15%
- Duty cycles: >500 / h
- Short circuit protected
- External control signal (24V) by M12 connector
- Viewable LED for device and motor status
- Standards due to EN 61010, EN 61800-3, EN 55011, EN 55014
- High EMC protection by aluminium casing
- metric cable glands für Line In

Electronic motor strater MONOVENT for ventilation systems

Type	MONOVENT
Power supply	360 V - 400 V +/- 15%
Net frequency	50 / 60 Hz
Motor power	2.2 KW
Output voltage	360 V - 400 V +/- 15%
Ambient temperature	0 - 40oC
Inputs	+24V start signal and motor temperature monitoring
Outputs	Ready for operation
Control	external +24V
Protection class	IP54
Standards	EN 61010 EN 61800-3 EN 55011 EN 55014

subject to qualifications

Motor soft starter SAE 3



Motor soft starter SAE 3

the soft start device SAE 3 a bi-directional power semi-conductor is integrated into one of the phases.

By controlling its firing angle in a time-dependant manner only a small current flows into one of the phases.

The current is steadily increased until the max. current flow angle is reached.

In this way the max. torque is present which is sufficient enough to enable a safe start even with drives having a large friction torque at standstill.

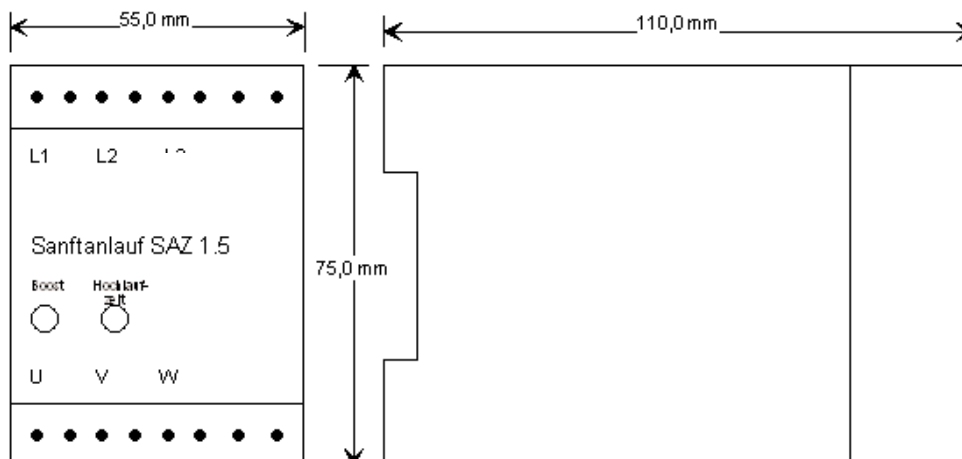
The current rise time (running-up time) and the initial torque of the motor can be seperately set.

The settingpotentiometers are accezsable by removing the front cover.

When the max. current flow angle is present after the adjustable starting time has elapsed a relay contact shortens the power semi-conductor, thus removing the starting electronics from the circuitry.

Since only 1 phase is influenced, an asymmetric rotating field is generated which causes a higher thermal loss of the motor.

Type	SAE 3 / 230 V	SAE 3 / 400 V
Power supply	230V	400V
Net frequency	50 Hz	50 Hz
Max. Motor power	1.1 kW	1.5 – 3.0 kW
Start time	0.3 s – 20 s	0.3 s – 20 s
Storage temperature	- 20 °C - 75 °C	- 20 °C - 75 °C
Operating temperature	0°C - + 40°C	0°C - + 40°C
Protection class	IP 20	IP 20



Motor soft starter SAZ 3



Motor soft starter SAZ 3

With the soft start device SAZ 3 a bi-directional power semi-conductor is integrated into two of the phases.

By controlling its firing angle in a time-dependant manner only a small current flows into one of the phases.

The current is steadily increased until the max. current flow angle is reached.

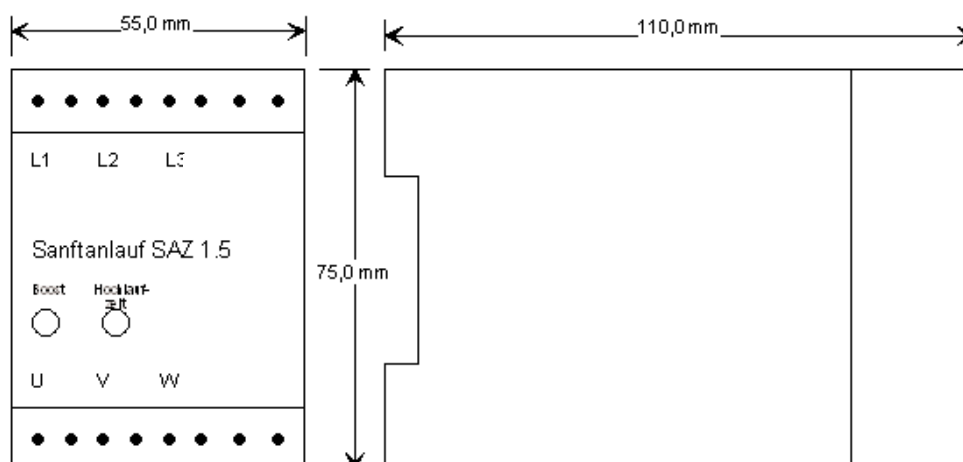
In this way the max. torque is present which is sufficient enough to enable a save start even with drives having a large friction torque at standstill.

The current rise time (running-up time) and the initial torque of the motor can be seperately set.

The settingpotentiometers are accezsable by removing the front cover.

When the max. current flow angle is present after the setttable starting time has elapsed a relay contact shortens the power semi-conductor, thus removing the starting electronics from the circuitry.

Type	SAZ 3 / 230 V	SAZ 3 / 400 V
Power supply	230 V	400 V
Net frequency	50 Hz	50 Hz
Max. Motor power	1,1 kW	1,5 – 3,0 kW
Start time	0,3 s – 20 s	0,3 s – 20 s
Storage temperature	- 20 °C - 75 °C	- 20 °C - 75 °C
Operating temperature	0°C - + 40°C	0°C - + 40°C
Protection class	IP 20	IP 20



subject to qualifications

Motor soft stater SSAZ 3



Motor soft starter SSAZ 3

The motor soft starter Type SSAZ controls a three-phase asynchronous motor in a soft start and a soft stop modus. The device is available fom 1.5KW till 3KW.

With the soft start device SSAZ a bi-directional power semi-conductor is integrated into two of the phases.

The current is steadily increased until the max. current flow angle is reached.

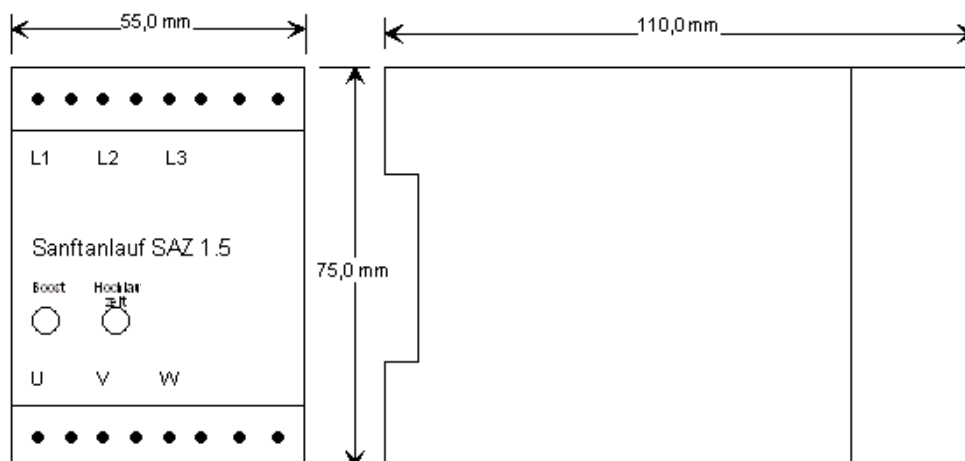
In this way the max. torque is present which is sufficient enough to enable a save start even with drives having a large friction torque at standstill.

The run-up time, the run-down time and the initial torque of the motor can be seperately set.

The settingpotentiometers are accezsable by removing the front cover.

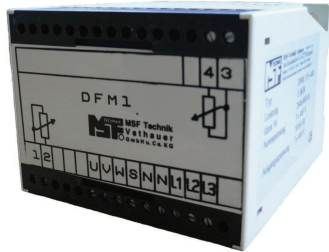
When the max. current flow angle is present after the settable starting time has elapsed a relay contact shortens the power semi-conductor, thus removing the starting electronics from the circuitry.

Type	SSAZ 3 / 400 V
Power supply	400 V
Net frequency	50 Hz
Max. Motor power	1,5 kW – 3,0 kW
Start time	0,3 s – 20 s
Storage temperature	- 20 °C - 75 °C
Operating temperature	0°C - + 40°C
Protection class	IP 20



subject to qualifications

Rotating field generator DFM



Rotating field generator DFM

The rotating-field-regulator type DFM 1 is a voltage regulator housed in a 35 mm snap-shot casing.

With the help of the DFM 1 the voltage can be regulated in 2phases by using the potentiometer.

Therefore the torque can be adjusted at the rotating-field-regulator.

The DFM 1 is also suitable for simple adjustments of the speed e.g. ventilator-drives with a three-phase-motor.

Application DFM

- Speed controller for ventilator
- Speed controller for coils drives
- Speed controller for asynchronous motors

Eddy-current break BR 2-10 till BR 3-600



Eddy-current break BR 2-10 till BR 3-600

The electrodynamic brake type BR 380... allows for wear and tear free braking of three phase and AC asynchronous motors which is achieved by feeding a direct current onto the motor coil.

On allocation of the braking time, the braking operation will end after the machine has come to a standstill.

Switching the motor off will introduce the fully automatic braking cycle.

Special characteristics

- Rough and fine setting of the braking current
- Setting of the braking time
- Soft introduction of the braking effect
- Absolutely free of wear and tear
- Installation in existing equipment
- Suitable for all motor series
- High operational safety
- Optimum price/performance ratio

Eddy-current break BR 2-10 till BR 3-600

BR 2-10 - BR 2-600	BR 2-10	BR 2-20	BR 2-40	BR 2-60	BR 2-100	BR 2-200	BR 2-400	BR 2-600
Power supply	230 V	230 V	230 V	230 V	230 V	230 V	230 V	230 V
Net frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Motor power	1,1 KW	3 KW	5,5 KW	7,5 KW	15 KW	30 KW	60 KW	95 KW
Protection class	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Ambient temperature	0 - 45°C	0 - 45°C	0 - 45°C	0 - 45°C	0 - 45°C	0 - 45°C	0 - 45°C	0 - 45°C
Dimension (WxHxD)	100 x 73 x 120 mm	100 x 73 x 120 mm	75 x 200 x 172 mm	175 x 200 x 172 mm	175 x 200 x 172 mm	175 x 240 x 172 mm	315 x 240 x 172 mm	315 x 450 x 211 mm
Motor -and Line In connection	Terminals	Terminals	Terminals	Terminals	Terminals	Terminals	Terminals	Terminals
Rated current by max. break current	10 A	20 A	40 A	60 A	100 A	200 A	400 A	600A
Duty by max. break current	20%	20%	15%	15%	15%	15%	15%	15%
ext. fuses "super fast"	10 A	20 A	40 A	60 A	100 A	200 A	400 A	630 A
Break voltage	0 -130 Vdc	0 -130 Vdc	0 -130 Vdc	0 -130 Vdc	0 -130 Vdc	0 -130 Vdc	0 -130 Vdc	0 -130 Vdc
Break time	2 - 5 sec.	2 - 5 sec.	2 - 5 sec.	2 - 5 sec.	2 - 5 sec.	2 - 5 sec.	2 - 5 sec.	2 - 5 sec.
Down time for reduction of rest EMK	250 ms	250 ms	600 ms	600 ms	1500 ms	1500 ms	1500 ms	1800 ms
Min. cable cross-section	1,5 mm ²	1,5 mm ²	2,5 mm ²	4 mm ²	10 mm ²	25 mm ²	50 mm ²	M10
Wight	0,5 kg	0,55 kg	2,4 kg	2,4 kg	2,55 kg	3,55 kg	7,6 kg	13,5 kg
Casing	plastic	plastic	plastic	plastic	plastic	plastic	plastic	plastic

subject to qualifications

Eddy-current break BR 2-10 till BR 3-600

BR 3-10 - BR 3-600	BR 3-10	BR 3-20	BR 3-40	BR 3-60	BR 3-100	BR 3-200	BR 3-400	BR 3-600
Power supply	400 V	400 V	400 V	400 V	400 V	400 V	400 V	400 V
Net frequency	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz	50/60 Hz
Motor power	2,2 KW	5,5 KW	7,5 KW	15 KW	22 KW	55 KW	110 KW	160 KW
Protection class	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20	IP 20
Ambient temperature	0 - 45°C	0 - 45°C	0 - 45°C	0 - 45°C	0 - 45°C	0 - 45°C	0 - 45°C	0 - 45°C
Dimension (WxHxD)	100x73x 120 mm	100x73x 120 mm	175x200x 172 mm	175x200x 172 mm	175x200x 172 mm	175x240x 172 mm	315x240x 172 mm	315x450x 211 mm
Motor -and Line In connection	Terminals	Terminals	Terminals	Terminals	Terminals	Terminals	Terminals	Terminals
Rated current by max. break current	10 A	20 A	40 A	60 A	100 A	200 A	400 A	600A
Duty by max. break current	20%	20%	15%	15%	15%	15%	15%	15%
ext. fuses "super fast"	10 A	20 A	40 A	60 A	100 A	200 A	400 A	630 A
Break voltage	0-130 Vdc	0-130Vdc	0-130 Vdc	0-130 Vdc	0-130 Vdc	0-130 Vdc	0-130 Vdc	0-130 Vdc
Break time	2 - 15sec.	2 - 15sec.	2 - 15sec.	2 - 15sec.	2 - 15sec.	2 - 15sec.	2 - 15sec.	2 - 15sec.
Down time for reduction of rest EMK	250 ms	250 ms	600 ms	600 ms	1500 ms	1500 ms	1500 ms	1800 ms
Min. cable cross-section	1,5 mm ²	1,5 mm ²	2,5 mm ²	4 mm ²	10 mm ²	25 mm ²	50 mm ²	M10
Wight	0,5 kg	0,55 kg	2,4 kg	2,4 kg	2,55 kg	3,55 kg	7,6 kg	13,5 kg
Casing	Plasic	Plasic	Plasic	Plasic	Plasic	Plasic	Plasic	Plasic

subject to qualifications

Frequency converter VECTOR Heat recovery



Frequency converter VECTOR Heat recovery

The Frequency Converter VECTOR Heat recovery is a special developed Frequency Converter for heat recovery. The device contains functions which were realised from previous external controller. The device is equipped with sensorless rotor operation monitoring. That means you can control the rotation with or without an external sensor (proximity switch).

The Frequency Converter controls the V-Belt whether the belt is broken or the V-Belt turns the Rotating heat exchanger correctly.

This function (sensorless V-Belt monitoring) enable short installation times, no maintenance work, less material costs, no sustaining of sensors and no mismeasurement by non detected attenuator.

Due to the VECTOR technology the Frequency Converter generate a high torque at low numbers of revolution speed.

The adjustable interval controller avoids maintenance of a Rotating heat exchanger.

Several Bus-systems (e.g.LON-BUS) are available.

The integrated or snap on plain text display are a further quality feature of this device.

Following features provides the VECTOR Heat recovery

- High torque by low rotation speed due to vector control
- Sensorless V-Belt monitoring
- Adjustable intervall controlling
- LON-Bus connectable
- Plain text display
- Protection class IP 20 and IP 54
- Linear and quadratic set point
- High EMC protection though aluminium casing

Applications areas are

- Production lines
- Canteen
- Ventilation systems
- Drying processes

Frequency converter VECTOR Heat recovery

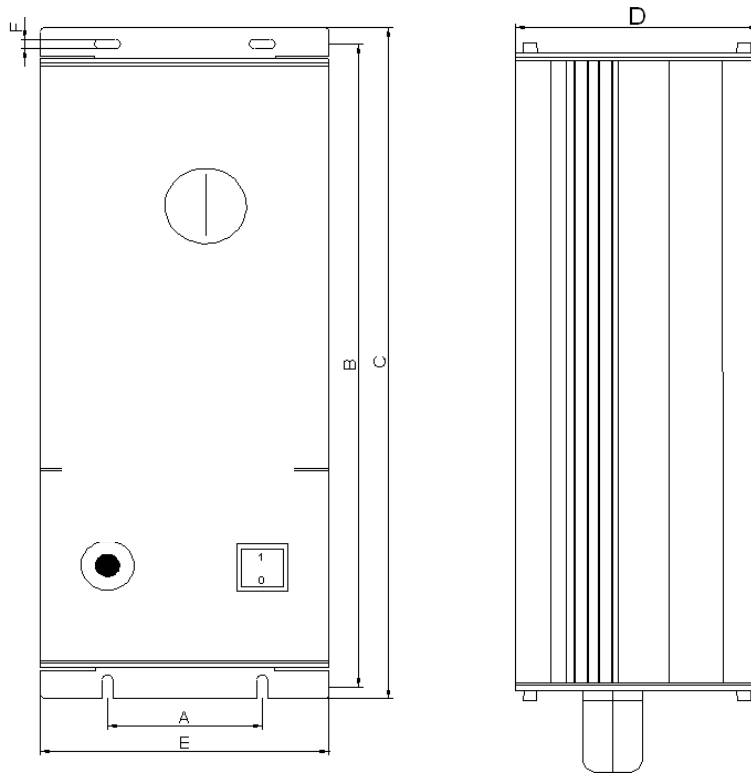
Typ	Vector WT 090	Vector WT 120	Vector WT 180	Vector WT 250	Vector WT 370	Vector WT 550	Vector WT 750
Output power	0,2 kVA	0,33 kVA	0,45 kVA	0,55 kVA	0,85 kVA	1,3 kVA	1,6 kVA
Motor power	0,09 kW	0,12 kW	0,18 kW	0,25 kW	0,37 kW	0,55 kW	0,75 kW
Rated current	1 A	1,1 A	1,3A	1,5 A	2,2 A	3,4 A	4 A
Output voltage	3 x 230 V	3 x 230 V	3 x 230 V	3 x 230 V	3 x 230 V	3 x 230 V	3 x 230 V
Output frequency	0–400 Hz	0–400 Hz	0–400 Hz	0–400 Hz	0–400 Hz	0–400 Hz	0–400 Hz
EMC filter	Internal	Internal	Internal	Internal	Internal	Internal	Internal
Rated voltage	230 V	230 V	230 V	230 V	230 V	230 V	230 V
Protection class	IP20 / IP54	IP20 / IP54	IP20 / IP54	IP20 / IP54	IP20 / IP54	IP20 / IP54	IP20 / IP54
Ambient temperature	0–40 °C	0–40 °C	0–40 °C	0–40 °C	0–40 °C	0–40 °C	0–40 °C

The Frequency Converter VECTOR Heat Recovery contains several integrated functions for the heat recovery. These functions guarantee a high operation reliability, comfort and process safety.

Function	Integrated into VECTOR HR
Potential free relay output 1	Signal ready for operate
Potential free relay output 2	Signal error
Rotor operation monitoring	Sensorless or with sensor. (Integrated option and chooseable option)
V-Belt monitoring	Integrated function
Intermittent controlling	Integrated function
Primacy speed	Integrated function
Short circuit protection	Integrated function
Motor temperature monitoring	PTC or Bi-Metall
Holding torque	Integrated function
Set point input	Linear/ Quadratic/ Vector
Protection class	IP 20 - IP 65
Heat recovery/ cold recovery	With separate module

subject to qualifications

Frequency converter VECTOR Heat recovery



Type	Dimension VECTOR Heat Recovery
A	65 mm
B	290 mm
C	312 mm
D	90 mm
E	112 mm
F	5 mm

subject to qualifications

Frequency converter VECTOR Vibrodrive



Frequency converter VECTOR Vibrodrive

The new type series of controller VECTOR Vibrodrive is modular designed and perfect for customised special-purpose solutions.

This series begins with the controller VECTOR Vibrodrive to control vibrating bowl conveyor and vibrating linear conveyor.

An integrated adjustable congestion input and a voltage supply for the necessary light barrier or sensor are included in all controllers.

After eliminating the congestion there is a further input available for a feeler to decrease the run-up time. A relay output is integrated in addition.

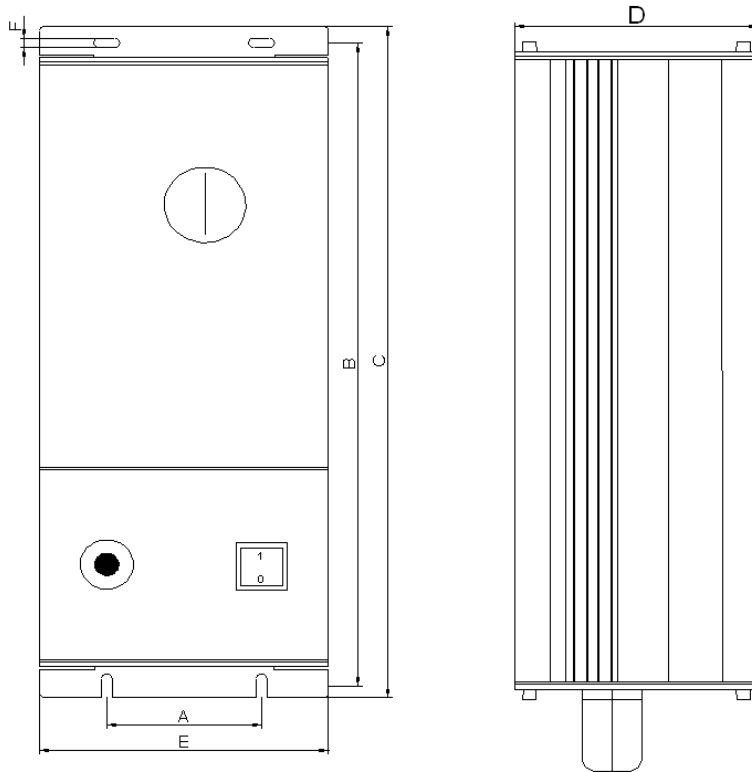
The VECTOR Vibrodrive shows following features

- With run-up time by-pass
- With relay output
- Non mechanical necessary adjustments for vibrating conveyor
- Short standstill period for your production line
- High cost-savings
- Plugable connector
- Protection class IP20 - IP 65
- Congestion input

Typ	Vector Vibro 090	Vector Vibro 120	Vector Vibro 180	Vector Vibro 250	Vector Vibro 370	Vector Vibro 550	Vector Vibro 750
Output power	0,2 kVA	0,33 kVA	0,45 kVA	0,55 kVA	0,85 kVA	1,3 kVA	1,6 kVA
Motor power	0,09 kW	0,12 kW	0,18 kW	0,25 kW	0,37 kW	0,55 kW	0,75 kW
Rated current	1 A	1,1 A	1,3A	1,5 A	2,2 A	3,4 A	4 A
Output voltage	3 x 230 V	3 x 230 V	3 x 230 V	3 x 230 V	3 x 230 V	3 x 230 V	3 x 230 V
Output frequency	0 – 160 Hz	0 – 160 Hz	0 – 160 Hz	0 – 160 Hz	0 – 160 Hz	0 – 160 Hz	0 – 160 Hz
EMC filter	Internal	Internal	Internal	Internal	Internal	Internal	Internal
Rated voltage	230 V	230 V	230 V	230 V	230 V	230 V	230 V
Protection class	IP20 / IP54	IP20 / IP54	IP20 / IP54	IP20 / IP54	IP20 / IP54	IP20 / IP54	IP20 / IP54
Ambient temperature	0–40 °C	0–40 °C	0–40 °C	0–40 °C	0–40 °C	0–40 °C	0–40 °C

subject to qualifications

Frequency converter VECTOR Vibrodrive



Type	Dimension VECTOR Vibrodrive
A	65 mm
B	290 mm
C	312 mm
D	90 mm
E	112 mm
F	5 mm

subject to qualifications

Frequency converter VECTOR Railway



Frequency converter VECTOR Railway

This Frequency converter controls asynchronous motors for various functions in railways, metros and in railed vehicles in general.

The VECTOR Railway controls asynchronous motors with a ISO-class F due to its special design.

This device saves energy and space in railway applications.

the VECTOR Railway was developed due to railway standards and meet all necessary approvals.

The robust aluminium casing allows the installation in allmost application of railway vehicles and provides a high EMC protection.

Advantages with VECTOR Railway

- Meets necessary railway approvals
- Vibration-proof
- High ambient temperature
- Easy mounting and installation
- Robust aluminium casing
- Saves energy and space
- Fast, quick and flexible mounting
- EMC approvals

Frequency converter VECTOR Railway

The VECTOR Railway is developed due to following standards

IEC 60068-2-1	Dry frost– 20°C
IEC 60068-2-2	Dry heat + 80°C
IEC 60068-2-3	Humidity heat, constant + 40°C
EN 61010-1	Safety for measurement and control technology
EN 61326	Electrical equipment for process control technique and laboratories, EMC
IEC 61000-3-2	Circuit feedback
IEC 61000-4-2	Interference immunity
IEC 61000-4-4	Burst test
IEC 255-21-1/2	Vibration strength

Typ	Vector Railway 180	Vector Railway 250	Vector Railway 370	Vector Railway 550	Vector Railway 750	Vector Railway 1100	Vector Railway 1500
Output power	0,45 kVA	0,55 kVA	0,85 kVA	1,3 kVA	1,6 kVA	2,8 kVA	4,0 kVA
Motor power	0,18 kW	0,25 kW	0,37 kW	0,55 kW	0,75 kW	1,1 kW	1,5 kW
Rated current	1,3 A	1,5 A	2,2 A	3,4 A	4,0 A	4,5 A	6,5 A
Output voltage	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V
Output frequency	0 – 400 Hz	0 – 400 Hz	0 – 400 Hz	0 – 400 Hz	0 – 400 Hz	0 – 400 Hz	0 – 400 Hz
EMC filter	Internal	Internal	Internal	Internal	Internal	Internal	Internal
Rated voltage	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V	3 x 400 V
Protection class	IP20	IP20	IP20	IP20	IP20	IP20	IP20
Ambient temperature	0–40 °C	0–40 °C	0–40 °C	0–40 °C	0–40 °C	0–40 °C	0–40 °C

subject to qualifications

DC motor controller MTR 101



DC motor controller MTR 101

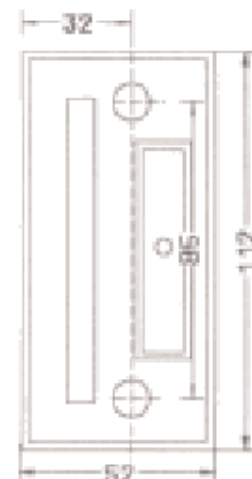
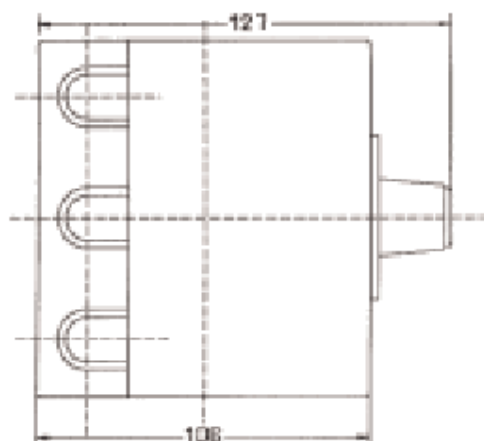
Despite alternative technologies, DC drives still have their application areas.

The DC motorcontroller of the MTR 101, The MTR 101 is for motor governor of a compact design which can be used for permanent field motors as well as for shunt-wound motors.

In the MTR 101 the armature current is limited by an overcurrent release (thermostatic switch).

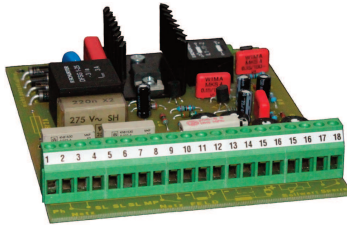
To adjust the motor speed there is in front of the case a set point potentiometer with an integrated on/ off switch.

Power supply	230 V 50/60 Hz
Armature voltage	0-180 Vdc
Factory setting	20-180Vdc
Field voltage	200 V
Max. output power	250 W
Fuses for power supply	Lead fuses
Fuses Armature	Therminal switch
Armature current	1.5A
Form factor	1.4
Case material top	Polystyrene shock-resistant
Control range	1:10
Protection class	IP 20



subject to qualifications

DC motor controller MTR 201



DC motor controller MTR 201

The board type MTR 201 motor governor for DC motors is designed for mounting in switching cabinets or other casings.

The MTR 201 type is designed as plug-in card and can be installed in a card holder-slot.

This version is space-saving and fast to install. The adjustment trim potentiometers for minimum and maximum speed as well as for armature voltage control and for maximum current are easy to access since they are located on the frontside.

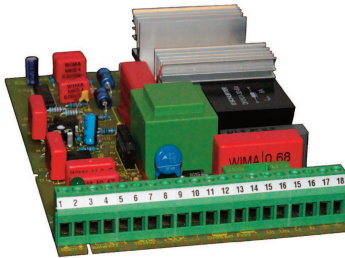
Due to a jumper setting there are two different set point inputs switchable.

The MTR 201 contains a 20 pole terminal for easy connection.

Power supply	230 V 50/60 Hz
Control voltage	0-180Vdc
Factory setting	20-180Vdc
Max. output power	250 W
Fuse	2A rapid release
Max. motor current	1.5A
Form factor	1.4
Ambient temperature	0-45°C
Control range	1:50
Dimensions	120 x 100 x 30 mm
Connector	Terminals
Design	Board design
Protection class	IP00

subject to qualifications

DC motor controller MTR 203 / MTR 204



MTR 203

DC motor controller MTR 203 / MTR 204

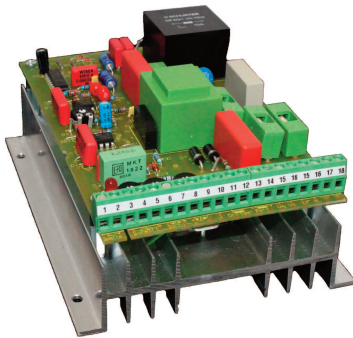
The one-quadrant MTR 203 und MTR 204 motor governors are robust and a good value.

They are suited for shunt-wound motors as well as for permanent-controlled DC motors. The type series features a compact design and is highly reliability.

Armature voltage control ($I \times R$) as well as a tachometer feedback is available.

Set value presetting is possible via a trimmer or a master reference voltage.

A built-in adjustable current limiting protects motor and governor against overload. Due to the integrated set value integrator, the running-up and running-down times can be adjusted.



MTR 204

	MTR 203	MTR 204
Power supply	230 V 50/60 Hz	230 V 50/60 Hz
Control voltage	0-170 V DC	0-170 V DC
Factory setting	20-170 V DC	20-170 V DC
Winding voltage	200 V DC	200 V DC
Max. output power	0,75 KW	1,5 KW
Fuse	6,3 A fast release	16,0 A fast release
Max. Motor current	5 A	10 A
Form factor	1,4	1,4
Ambient temperature	0-45°C	0-45°C
Control range	1:50	1:50
Speed indicator ratio	1:100	1:100
Protection class	IP 00	IP 00
Set point potentiometer	10 K	10 K
Reference voltage	+ 12 V DC	+ 12 V DC

Decentralized drives for conveying systems



Optimize your intralogistic conveying system and save energy, installation time and money

To make the intralogistic conveying system more economically all drives takes a important part of the whole conveying syetem.

Energy saving due to a installation of low power geared motors and due to intelligent ON/ OFF motorstarter, motor soft starter and frequency converter.



Fast automatize and flexible amplification of already installed conveying systems due to motor-starter MONO-SWITCH and DUO-SWITCH.

Loss of starring wiring through the decentralization of drives and installation of power distribution systems.

Integrated fieldbus systems in all motor starter and frequency converter

- AS-Interface
- Profi-Bus DP
- 24V PLC signal



Decentralized drives for conveying systems

All motor starter switches the motors full electronically by power semiconductor.

By means alle motor starter uses machanical contactor or relais. This technology avoid operational faults and increases operating cycles for the conveying system which will becomes much more efficient and the service will reduced.

The motor starter MONO-SWITCH and DUO-SWITCH are different in following cases. The motor starter MONO-SWITCH switches and controll only one eletrical motor. The motor starter DUO-SWITCH switches and controll two different electrical motors seperately. Fruthermore the MONO-SOFT-SWITCH switches one electrical motor smooth. The DUO-SOFT-SWITCH switches two different motors smooth with adjustable run-up times and run-down-times.



MONO-SWITCH

This electronical motor starter MONO-Switch switches only one three-phase asynchronous motor ON and OFF. The MONO-Switch is available from 0.09KW to 3KW.

The connected motor is protected by the motor temperature monitoring. The motor temperature signal will transmitt to the superordinated controller by AS-interface. An uncontrolled disconnection of the motor is avoided.

The integrated motor connector meets the DESINA requirements and allows a fast, reliable and quick connection. Also pre-toilored cables can be connected. Due to the 8-pole connector, a break function is also available in the same connector.

The power supply can be realised by various energy distribution systems. In this case, MSF provides metric cable glands or suitable connectors for special energy distribution systems.



The integrated M12 connector allows to connect two photo electric sensors and the AS-interface version 2.1 or for 24V binary signals.

Fieldbus-Systems

- 24V binary (PLC)
- AS-Interface
- Further fieldbus-systems on request

Decentralized drives for conveying systems



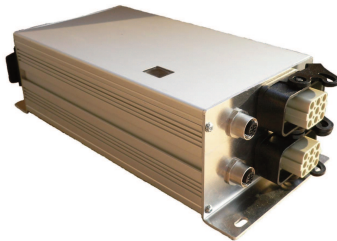
DUO-SWITCH

This electronic motor starter DUO-Switch switches two three-phase asynchronous motor ON and OFF separately. The DUO-Switch is available from 2 x 0.09KW to 2 x 0.75 kW

The connected motor is protected by the motor temperature monitoring for each motor. The motor temperature signal will transmit to the superordinated controller by AS-interface. An uncontrolled disconnection of the motor is avoided.

The integrated motor connector meets the DESINA requirements and allows a fast, reliable and quick connection for each motor. Also pre-tooled cables can be connected. Due to the 8-pole connector, a break function is also available in the same connector.

The power supply can be realised by various energy distribution systems. In this case, MSF provides metric cable glands or suitable connectors for special energy distribution systems.



The integrated M12 connector allows to connect one photo electric sensor for each motor and the AS-interface version 2.1 or for 24V binary signals.

Fieldbus-Systems

- 24V binary (PLC)
- AS-Interface
- Further fieldbus-systems on request

Decentralized drives for conveying systems



MONO-SOFT-SWITCH

This electronic motor soft starter MONO-SOFT-Switch switches one three-phase asynchronous motor smooth ON and OFF.

The run-up time and run-down time ramp is adjustable by potentiometer which are accessible from the outside. The MONO-SOFT-Switch is available from 0.09KW to 3.0 kW.

The connected motor is protected by the motor temperature monitoring. The motor temperature signal will transmit to the superordinated controller by AS-interface. An uncontrolled disconnection of the motor is avoided.

The run-up time, the run-down time and the BOOST are adjustable by interlan potentiometers which are accessible from the outside.



The integrated motor connector meets the DESINA requirements and allows a fast, reliable and quick connection for each motor. Also pre-toilored cables can be connected. Due to the 8-pole connector, a break function is also available in the same connector.

The power supply can be realised by various energy distribution systems. In this case, MSF provides metric cable glands or suitable connectors for special energy distribution systems.

The integrated M12 connector allows to connect two photo electric sensors and the AS-interface version 2.1 or for 24V binary signals.

Fieldbus-Systems

- 24V binary (PLC)
- AS-Interface
- Further fieldbus-systems on request

Decentralized drives for conveying systems



DUO-SOFT-SWITCH

This electronic motor soft starter DUO-SOFT-Switch switches two three-phase asynchronous motor smooth ON and OFF.

The run-up time and run-down time ramp is adjustable by potentiometer which are accessible from the outside for each motor. The DUO-SOFT-Switch is available from 2 x 0.09KW to 2 x 0.75 kW.

The connected motors are protected by the motor temperature monitoring. The motor temperature signal will transmitt to the superordinated controller by AS-interface for each motor. An uncontrolled disconnection of the motor is avoided.

The run-up time, the run-down time and the BOOST are adjustable by internal potentiometers which are accessible from the outside. The adjustments are possible for each motor.



The integrated motor connector meets the DESINA requirements and allows a fast, reliable and quick connection for each motor. Also pre-toilored cables can be connected. Due to the 8-pole connector, a break function is also available in the same connector.

The power supply can be realised by various energy distribution systems. In this case, MSF provides metric cable glands or suitable connectors for special energy distribution systems.

The integrated M12 connector allows to connect one photo electric sensor for each motor and the AS-interface version 2.1 or for 24V binary signals.

Fieldbus-Systems

- 24V binary (PLC)
- AS-Interface
- Further fieldbus-systems on request

Decentralized drives for conveying systems

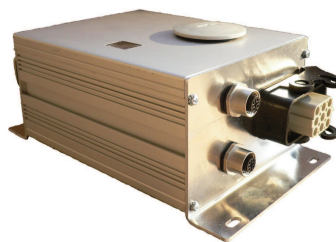


MONO-SOFT-SWITCH-Reversierbar

This electronic motor soft starter MONO-SOFT-Switch Reversible switches one three-phase asynchronous motor smooth ON and OFF for right direction and left direction. The run-up time and run-down time ramp is adjustable by potentiometer which are accessible from the outside for both direction. The MONO-SOFT-Switch Reversible is available from 0.09KW to 3.0 kW.

The connected motor is protected by the motor temperature monitoring. The motor temperature signal will transmit to the superordinated controller by AS-interface. An uncontrolled disconnection of the motor is avoided.

The direction of rotation is reversible by the integrated AS-interface or by 24V binary signals.



The run-up time, the run-down time and the BOOST are adjustable by interlan potentiometers for both directions which are accessible from the outside.

The integrated motor connector meets the DESINA requirements and allows a fast, reliable and quick connection for each motor. Also pre-tooled cables can be connected. Due to the 8-pole connector, a break function is also available in the same connector.

The power supply can be realised by various energy distribution systems. In this case, MSF provides metric cable glands or suitable connectors for special energy distribution systems.

The integrated M12 connector allows to connect two photo electric sensors and the AS-interface version 2.1 or for 24V binary signals.

Fieldbus-Systems

- 24V binary (PLC)
- AS-Interface
- Further fieldbus-systems on request

Decentralized drives for conveying systems

Type	MONO-SWITCH	DUO-SWITCH	MONO-SOFT-SWITCH	DUO-SOFT-SWITCH	MONO-SOFT-SWITCH Rev.
Motor power	0,09 - 3,0 kW	0,09 - 0,75 kW je Motor	0,09 - 3,0 kW	0,09 - 0,75 kW je Motor	0,09 - 3,0 kW
Direction	right direction				right / left
Output voltage	3 x 400V				
Output frequency	50 Hz				
Power supply	400 V				
Protection class	IP 54				
Ambient temperature	0°C - 40°C				
Motor temperature monitoring	PTC / PTO				
Field bus	AS-interface or 24V binary				
Sensor connection	2 x Sensor M12 plug	1 x Sensor M12 plug each motor	2 x Sensor M12 plug	1 x Sensor M12 plug each motor	2 x Sensor M12 plug
Field bus connection	M12 connector				
Motor break management	Direct switching by 400Vac or 230Vac (Neutral must be integrated in energy distribution bus)				
Status LED	LED and field bus				

subject to qualifications

Decentralized drives for conveying systems



MONO-SWITCH - PROFI DP-

This electronical motor starter MONO-Switch DP switches only one three-phase asynchronous motor ON and OFF directly. The MONO-Switch is available from 0.09KW to 0.75KW.

The connected motor is protected by the motor temperature monitoring. The motor temperature signal will transmitt to the superordinated controller by AS-interface. An uncontrolled disconnection of the motor is avoided.

The integrated M12 connector allows a fast and reliable connection of four photo electric sensors, one manual operating terminal, as well as the Profi Bus DP.

The connection by metric cable glands for the motor connection and Line In connection allows the usage of various energy distribution systems. If the application requires special motor and Line In connectors, MSF provides the suitable connector especially to the application.



Further the motor starter contains a relay output for a breaking motor. As a separate option the motor starter provides 185Vdc to switch the motor break directly.

Additional features for intralogistic conveying systems

- Detection of all sensors by bus failure
- Detection of all sensors by switch OFF the motor starter
- Rapid stop of the motor by local failure of signalbus
- Status signal of motor temperature by Profibus
- Connection of manual operating terminal

Decentralized drives for conveying systems



Frequency converter VECTOR - PROFI DP-

The Frequency converter VECTOR 54 Profibus DP was developed for special functions for conveying systems. The converter controls 3-phase asynchronous motors with a maximum power of 1.5 kW.

The connected motor is protected by the motor temperature monitoring. The motor temperature signal will transmit to the superordinated controller by AS-interface. An uncontrolled disconnection of the motor is avoided.

The integrated M12 connector allows a fast and reliable connection of four photo electric sensors, one manual operating terminal, as well as the Profi Bus DP.

The connection by metric cable glands for the motor connection and Line In connection allows the usage of various energy distribution systems. If the application requires special motor and Line In connectors, MSF provides the suitable connector especially to the application.

Further the motor starter contains a relay output for a breaking motor. As a separate option the motor starter provides 185Vdc to switch the motor break directly.

The integrated lockable master switch ensures a safety maintenance work.



Additional features for intralogistic conveying systems

- Detection of all sensors by bus failure
- Detection of all sensors by switch OFF the motor starter
- Rapid stop of the motor by local failure of signalbus
- Status signal of motor temperature by Profibus
- Connection of manual operating terminal

Decentralized drives for conveying systems with integrated Energy Distribution System Field Power®

No starry wiring though energy distribution system Field Power® with snap on motor starter

The electronic motor starter for the energy distribution system Field Power® is a snap-on motor starter for the power distribution box (power box). This system is an alternative to central installed motor starter. The attributes of quick installation, flexible installation and easy installation features big advantages during re-installations, extensions of a machine or for re-fittings.

All motor starter are connectable via a round cable or via a ribbon cable. Into the motor starter integrated M12 male or female connectors are available for single bus systems (field-bus-systems) like AS-Interface, Profibus or for a 24V PLC-signal. Two more M12 connectors are available for two photo electric sensors.

Following versions are available:

MONO-SWITCH

ON/ OFF motor starter for only one asynchronous motor

DUO-SWITCH

ON/ OFF motor starter for two separate asynchronous motor

MONO-SOFT-SWITCH

ON/ OFF soft motor starter for only one asynchronous motor

VECTOR Field Power®

Frequency converter for Energy distribution system Field Power®



Decentralized drives for conveying systems with integrated Energy Distribution System Field Power®



Overview of all motor starter and Frequency converter

MONO-SWITCH

Direct motor starter to switch one asynchronous motor ON and OFF

MONO-SOFT-SWITCH

Soft motor starter to switch one asynchronous motor ON and OFF

DUO-SWITCH

Direct motor starter to switch two asynchronous motor ON and OFF seperately

DUO-SOFT-SWITCH

Soft motor starter to switch two asynchronous motor ON and OFF seperately

MONO-SOFT-SWITCH Reverse

Soft motor starter to switch one asynchronous motor ON and OFF for right direction and left direction

Frequency converter VECTOR Field Power

Frequency converter with for AC drives with energy distribution system Field Power

Decentralized drives for conveying systems with integrated Energy Distribution System Field Power®

Frequency converter VECTOR Field Power®

The frequency converter VECTOR Field Power® is used everywhere motor speeds will vary for specific applications.



Characteristics of the VECTOR Field Power®

- Power range: from 0.09 kW to 2,2 kW
- Voltage range: 3 x 400Vac + / - 10%
- Clock speed: up to 8 KHz
- Integrated power distribution
- Integrated Field Bus interface
 - AS-interface spec. 3.0
 - Profibus DP
 - 24V binary
 - Cascade for storage conveying systems
- Protection: IP65
- Standard: 4-Q - Operating
- Standard: LED status display
- Standard integrated brake management for 230Vac or 400Vac motor brakes
- Standard: Programmable brake for lifting frames
- Standard: Integrated EMC filter class A
- Standard: Integrated motor temperature control for each motor
- Standard: Standard: 8 preset speeds available
- Standard: Connection for manual control unit
- Standard: Connection of 2 sensors per motor
- Standard: Q8 Motor connector to DESINA for each motor
- Optional: Connecting of a brake resistor

Field bus systems

- AS-interface Spec. 3.0
- Profibus DP
- 24V binary
- Cascade for storage conveying systems

Decentralized drives for conveying systems with integrated Energy Distribution System Field Power®



Motor starter - MONO-SWITCH Field Power®

The Motor starter MONO-SWITCH Field Power® is used everywhere where the drive without a speed change without integrated soft start must be application-specific switched on and off.

The MONO-SWITCH Field Power® is designed for the direct on- and off turning of one separate three-phase asynchronous motor.

Characteristics of the MONO-SWITCH® Field Power

- Power range: from 0.09 kW to 2,2 kW
- Voltage range: 3 x 400Vac + / - 10%
- Integrated power distribution and line protection
- Integrated field bus interface
 - AS-interface spec. 3.0
 - Profibus DP
 - 24V binary
 - Cascade for storage conveying systems
- Protection: IP65
- Standard: LED status display
- Standard integrated brake management for 230Vac or 400Vac motor brakes
- Standard: integrated motor temperature control for each motor
- Standard: Connection for manual control unit
- Standard: Connection of 2 sensor per motor
- Standard: Q8 Motor connector to DESINA for each motor
- Security: By 3-phase independent switching for each motor

Field bus systems

- AS-interface Spec. 3.0
- Profibus DP
- 24V binary
- Cascade for storage conveying systems

Decentralized drives for conveying systems with integrated Energy Distribution System Field Power®



Motor soft starter - MONO-SOFT-SWITCH Field Power®

The Motor soft starter MONO-SOFT-SWITCH Field Power® is used everywhere where the drive without a speed change with integrated soft start must be application-specific switched on and off.

The MONO-SOFT-SWITCH Field Power® is designed for the soft on— and off turning of a three-phase asynchronous motor.

Characteristics of the MONO -SOFT-SWITCH Field Power®

- Power range: from 0.09 kW to 2,2 kW
- Voltage range: 3 x 400Vac + / - 10%
- Integrated power distribution and line protection
- Integrated Field Bus interface
 - AS-interface spec. 3.0
 - Profibus DP
 - 24V binary
 - Cascade for storage conveying systems
- Protection: IP65
- Standard: LED status display
- Standard: Adjustable high and low running times
- Standard: Adjustable motor current
- Standard integrated brake management for 230Vac or 400Vac motor brakes for each motor
- Standard: Integrated motor temperature control
- Standard: Connection for manual control unit
- Standard: connection of 2 sensors
- Standard: Q8 Motor connector to DESINA
- Standard: Reversing (reversing starter)
- Security: By 3-phase independent soft switching for each motor

Field bus systems

- AS-interface Spec. 3.0
- Profibus DP
- 24V binary
- Cascade for storage conveying systems

Decentralized drives for conveying systems with integrated Energy Distribution System Field Power®



Motor starter - DUO-SWITCH Field Power®

The motor starter DUO-SWITCH Field Power® is used everywhere where two drives independently of one another without application-specific change in speed and without a soft start must be switched on and off.

The DUO-SWITCH Field Power® is designed for the direct on— and off turning of two separate 3-phase asynchronous motors.

Characteristics of the DUO-SWITCH ® Field Power

- Power range: from 0.09 kW to 0.75 kW per engine
- Voltage range: 3 x 400Vac + / - 10%
- Integrated power distribution and line protection
- Integrated Field Bus interface
 - AS-interface spec. 3.0
 - Profibus DP
 - 24V binary
 - Cascade for storage conveying systems
- Protection: IP65
- Standard: LED status display
- Standard: integrated brake management for 230Vac or 400Vac motor brakes for each motor
- Standard: integrated motor temperature control for each motor
- Standard: Connection for manual control unit
- Standard: Connection of 1 sensor per motor
- Standard: Q8 Motor connector to DESINA for each motor
- Security: By 3-phase independent switching for each motor

Field bus systems

- AS-interface Spec. 3.0
- Profibus DP
- 24V binary
- Cascade for storage conveying systems

Decentralized drives for conveying systems with integrated Energy Distribution System Field Power®



Motor Soft starter - DUO-SOFT-SWITCH Field Power®

The Motor Soft Starter DUO-SOFT-SWITCH Field Power® is used everywhere where two drives without a speed change with integrated soft-start must be application-specific switched on and off.

The DUO-SOFT-SWITCH Field Power® is designed for the soft on- and off turning of two independent 3-phase asynchronous motors.

Characteristics of the DUO-SOFT-SWITCH® Field Power

- Power range: from 0.09 kW to 0.75 kW per motor
- Voltage range: 3 x 400Vac + / - 10%
- Integrated power distribution and line protection
- Integrated Field Bus interface
 - AS-interface spec. 3.0
 - Profibus DP
 - 24V binary
 - Cascade for storage conveying systems
- Protection: IP65
- Standard: LED status display
- Standard: Adjustable high and low running times per motor
- Standard: Adjustable motor current of each motor
- Standard integrated brake management for 230Vac or 400Vac motor brakes for each motor
- Standard: integrated motor temperature control for each motor
- Standard: Connection for manual control unit
- Standard: connection of 1 sensor per motor
- Standard: Q8 Motor connector to DESINA for each motor
- Security: By 3-phase independent switching for each motor

Field bus systems

- AS-interface Spec. 3.0
- Profibus DP
- 24V binary
- Cascade for storage conveying systems

Decentralized drives for conveying systems with integrated Energy Distribution System Field Power®



Motor soft starter – MONO-SOFT-SWITCH Reversible Field Power®

The motor soft starter MONO-SOFT-SWITCH-Reversible Field Power® is used everywhere where the drive without a speed change with integrated soft start must be application-specific switched on and off and a rotation reversal is necessary.

The MONO-SOFT-SWITCH Reversible Field Power® is designed for the soft on— and off turning of a 3-phase asynchronous motor and for the rotation reversal.

Characteristics of the MONO-SOFT-SWITCH Reversible Field Power®

- Power range: from 0.09 kW to 2,2 kW
- Voltage range: 3 x 400Vac + / - 10%
- Integrated power distribution and line protection
- Integrated Field Bus interface
 - AS-interface spec. 3.0
 - Profibus DP
 - 24V binary
 - Cascade for storage conveying systems
- Protection: IP65
- Standard: LED status display
- Standard: Adjustable high and low running times
- Standard: Adjustable motor current
- Standard integrated brake management for 230Vac or 400Vac motor brakes for each motor
- Standard: Integrated motor temperature control
- Standard: Connection for manual control unit
- Standard: connection of 2 sensors
- Standard: Q8 Motor connector to DESINA
- Standard: Reversing (reversing starter)
- Security: By 3-phase independent switching for each motor

Field bus systems

- AS-interface Spec. 3.0
- Profibus DP
- 24V binary
- Cascade for storage conveying systems

Decentralized drives for conveying systems with integrated Energy Distribution System Field Power®

Motor Starter Field Power® mounted on 3phase asynchronous motor

Motor starter Field Power® MOT

The Motor starter Field Power® MOT is always used where the motormanagement application-specific must be built or can be built onto the motor.



Characteristics of the motor starter Field Power® - MOT

- Power range: from 0.09 kW to 2,2 kW
- Voltage range: 3 x 400Vac + / - 10%
- Integrated power distribution and line protection
- Integrated Field Bus interface
 - AS-interface spec. 3.0
 - Profibus DP
 - 24V binary
 - Cascade for storage conveying systems
- Protection: IP65
- Standard: LED status display
- Standard integrated brake management for 230Vac or 400Vac motor brakes for each motor
- Standard: Integrated motor temperature control
- Standard: Connection for manual control unit
- Standard: connection of 2 sensors
- Standard: Q8 Motor connector to DESINA
- Optional: Connection of brake resistor

Motor specifications

- AC induction gear motor 0,09 kW - 2,2 kW
- Transmission type: worm gears, spur gears, bevel gears, worm-spur gear, etc.
- Design: B3, B14, B34, B35
- Motor protection: 3 x built-in PTC thermistor

Product Variants of the Motor Starter Field Power® - MOT

- MONO-SWITCH Field Power®
- DUO-SWITCH Field Power®
- MONO-SOFT-SWITCH Field Power®
- DUO-SOFT-SWITCH Field Power®
- MONO-SOFT-SWITCH Reversible Field Power®
- Frequency converter VECTOR Field Power®

Field bus systems

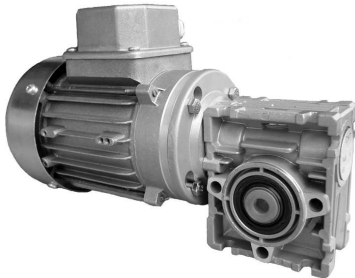
- AS-interface Spec. 3.0 | Profibus DP
- 24V binary | Cascade for storage conveying systems

Decentralized drives for conveying systems with integrated Energy Distribution System Field Power®

Typ	MONO-SWITCH Field Power®	MONO-SOFT-SWITCH Field Power®	DUO-SWITCH Field Power®	DUO-SOFT-SWITCH Field Power®	MONO-SOFT-SWITCH - Reverse Field Power®	Frequenzrichter VECTOR Field Power®
Power supply	400V AC					
Net Frequency	50 / 60 Hz					
Motor power	2,2 kW		0,75 kW for each Motor		2,2 kW	2,2 kW
Motor current	5 A					
Line In fuses	Internal					
Ambient temperature	0 - 40°C					
Inputs	2 x Sensor 1 x Signal bus 1 x Manual operating terminal		1 x Sensor je Motor 1 x Signal bus 1 x Manual operating terminal		2 x Sensor 1 x Signal bus 1 x Manual operating terminal	2 x Sensor 1 x Signal bus 1 x Manual operating terminal
Signal bus	24Vbinary / Cascade / AS-Interface / Profibus DP					
Protection class	IP65					
Sensor voltage	18V - 30V					
Sensor current	20mA					
Dimension	H: 157mm B: 135mm T: 105mm					

subject to qualifications

Asynchronous motor - Compact Drive 050



- Motor size 050
- Compact design
- Worm gear box size 025 / 030
- Short delivery times
- Frequency converter operation

The compact design permit the installation of this drives in any application.

The smart design convince for any application.

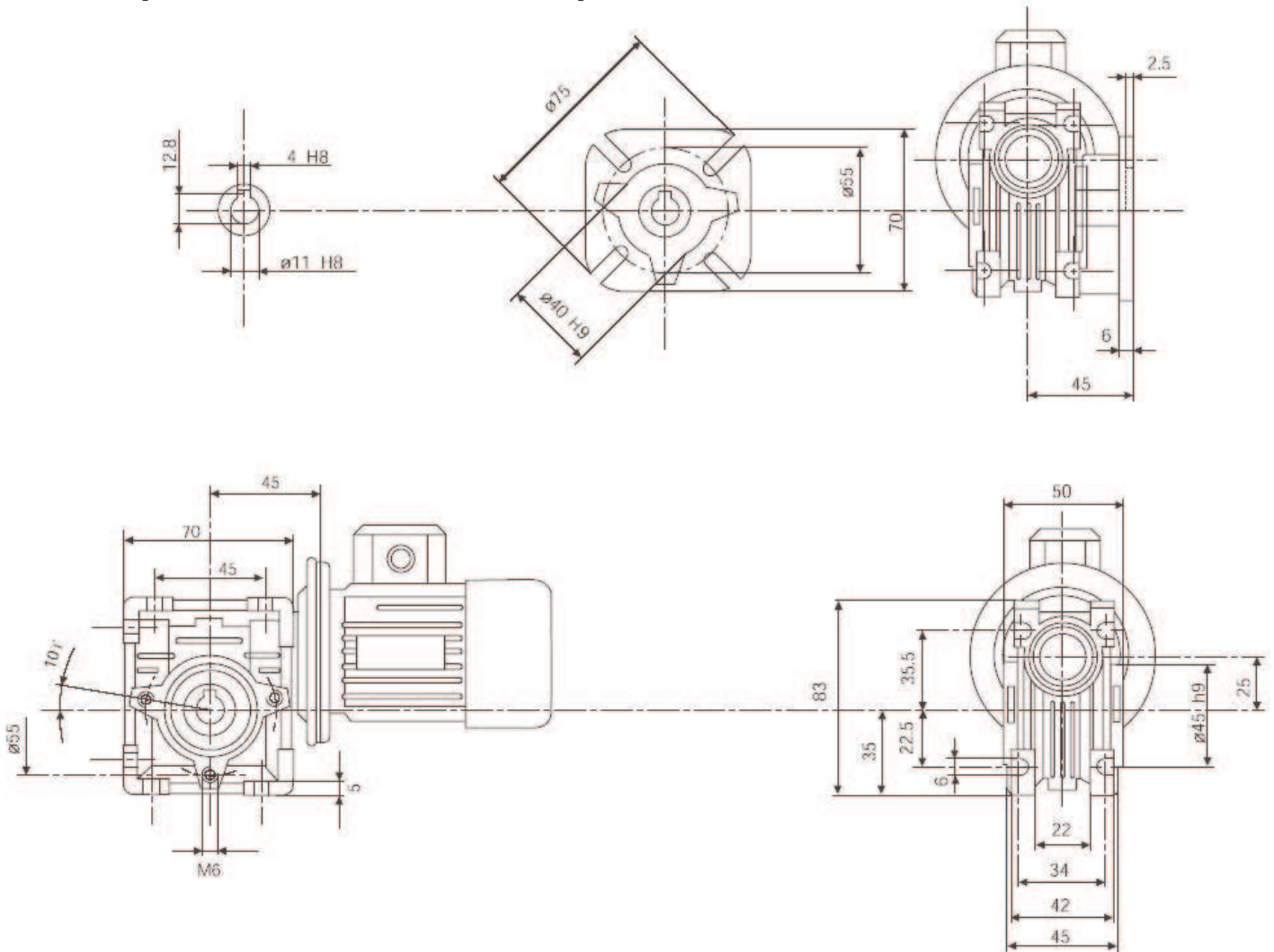
The geared motor provides nine different ratios from $i=7.5.....60$ and perform a maximum torque of 14 Nm.

Performance of the 025 worm gear box with 4-pole motor 0.09KW

Ratio i	n_2 rpm	KW= p_1	Nm= T_2	f.s
7,5	186,7	0,09	3,8	2,8
10	140,0	0,09	5	2,4
15	93,3	0,09	7,2	1,6
20	70,0	0,09	9	1,3
25	56,0	0,09	10	1,0
30	46,7	0,09	12,3	1,1
40	35,0	0,09	13	1,0
50	28,0	0,09	14	0,7
60	23,3	0,09	14	0,6

subject to qualifications

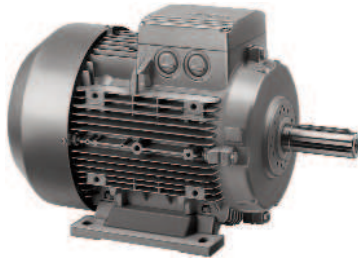
Asynchronous motor - Compact Drive 050



Designation	Motor 050
Motor power	0,04 KW
Rated speed	1350 1/min
Rated current	0,23 A
Cos. phi	0,6
Start current	2,4 A
Break down torque	2,1 Mmax/ Mn
Torque of inertia	0,00008 kgm ²
Weight	2,2 Kg

subject to qualifications

Three-phase asynchronous motors



All standards motors are available in energy classe EFF1, EFF2 (IE1, IE2).

All motors are available in various frame designs and from 0.09 kW till 7.5 kW in aluminium frame.

Alle motors from 11 KW bis 315 KW are available in cast iron frame. They are also available in various frame designs.

The technical specification of all motors meets the requirements of IEC and VDE

All motors contains the ISO-class F. Higher insulation classes are available on request.

The refitting with breaks or external fans are possible.

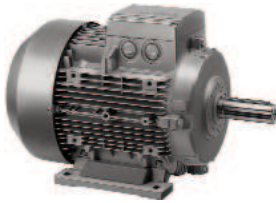
All motor meets the protection class IP55, ISO-class Fand contains 3 thermistors to monitor the motor temperature.

All motors are available in following frame desgins:

- B3
- B5
- B14
- B34
- B35

Special motor sare available on request.

Three-phase asynchronous motors - IE 1



Three-phase asynchronous motors 2-pole

Rotation speed: 3000 rpm

ISO-class: F

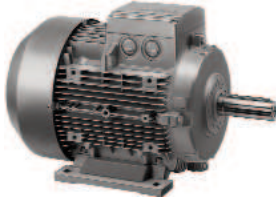
Motor protection: PTC / PTO

Design: B3 / B5 / B14 / B34 / B35

Energy Efficiency: IE 1

Type	Power	Speed	Rated current	Efficiency	Power factor	Rated rotor torque	Locked rotor torque	Locked rotor current	Break down torque
	kW	1/ min	A	%	cos Phi	Nm	Ma/Mn	Ia/In	Mmax/Mn
JS 561-2	0,09	3000	0,30	62	0,77	0,31	2,1	5,2	2,2
JS 56 2-2	0,12	3000	0,30	64	0,78	0,41	2,1	5,2	2,2
JS 63 1-2	0,18	3000	0,50	66	0,80	0,61	2,2	5,5	2,3
JS 63 2-2	0,25	3000	0,60	69	0,81	0,96	2,2	5,5	2,3
JS 71 1-1	0,37	3000	0,90	71	0,81	1,26	2,2	6,1	2,9
JS 71 2-2	0,55	3000	1,3	74	0,82	1,88	2,2	6,1	2,9
JS 80 1-1	0,75	3000	1,7	76	0,83	2,54	2,2	6,1	2,9
JS 80 2-2	1,1	3000	2,4	78	0,84	3,72	2,2	7,0	2,9
JS 90 S2	1,5	3000	3,2	80	0,84	5,04	2,2	7,0	2,9
JS 90 L2	2,2	3000	4,6	82	0,85	7,4	2,2	7,0	2,9
JS 100 L2	3	3000	5,9	84	0,88	9,95	2,2	7,5	2,9
JS 112 M2	4	3000	7,7	86	0,88	13,22	2,2	7,5	2,9
JS 132 S1-2	5,5	3000	10,3	87	0,89	18,11	2,2	7,5	2,9
JS 132 S2-2	7,5	3000	14,0	87	0,89	24,7	2,2	7,5	2,9
KS 160 M1-2	11	3000	20,2	88,6	0,89	36	2,2	8,1	2,3
KS 160 M2-2	15	3000	27,2	90	0,89	49	2,2	8,1	2,3
KS 160 L-2	18,5	3000	33	90,5	0,90	60	2,2	8,1	2,3
KS 180 M-2	22	3000	39	91	0,90	71	2,0	8,1	2,3
KS 200 L1-2	30	3000	52,3	92	0,90	97	2,0	8,1	2,3
KS 200 L2-2	37	3000	64,5	92,5	0,90	119	2,0	8,1	2,3
KS 225 M2-2	45	3000	78	93	0,90	145	2,0	8,1	2,3
KS 250 M-2	55	3000	93,3	93,5	0,91	177	2,0	8,1	2,3
KS 280 S-2	75	3000	126	94	0,92	242	2,0	8,1	2,3
KS 280 M-2	90	3000	120	94,4	0,92	290	2,0	8,1	2,3
KS 315 S-2	110	3000	185	94,5	0,91	353	1,8	7,7	2,2
KS 315 M.2	1 32	3000	221	95	0,91	424	1,8	7,7	2,2
KS 315 L1-2	160	3000	264	95,1	0,92	514	1,8	7,7	2,2
KS 315 L2-2	200	3000	330	95,2	0,92	642	1,8	7,7	2,2
KS 355 M-2	250	3000	413	95,2	0,92	801	1,8	7,7	2,2
KS 355 L-2-2	315	3000	520	95,2	0,92	1009	1,8	7,7	2,2

Three-phase asynchronous motors - IE 1



Three-phase asynchronous motors 4-pole

Rotation speed: 1500 rpm

ISO-class: F

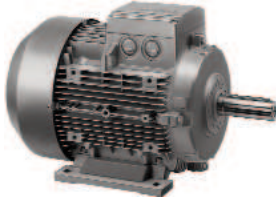
Motor protection: PTC / PTO

Design: B3 / B5 / B14 / B34 / B35

Energy Efficiency: IE 1

Type	Power	Speed	Rated current	Efficiency	Power factor	Rated rotor torque	Locked rotor torque	Locked rotor current	Break down torque
	KW	1/ min	A	%	cos Phi	Nm	Ma/Mn	Ia/In	Mmax/Mn
JS 56 2-4	0,09	1500	0,30	58	0,70	0,64	2,0	4,0	2,2
JS 63 1-4	0,12	1500	0,40	59	0,72	0,84	2,1	4,4	2,3
JS 63 2-4	0,18	1500	0,60	62	0,73	1,26	2,1	4,4	2,3
JS 71 1-4	0,25	1500	0,70	67	0,74	1,73	2,1	5,2	2,3
JS 71 2-4	0,37	1500	1,0	70	0,75	2,56	2,1	5,2	2,3
JS 80 1-4	0,55	1500	1,5	72	0,75	3,75	2,3	5,2	2,3
JS 80 2-4	0,75	1500	1,9	74	0,77	5,11	2,3	5,3	2,3
JS 90 S4	1,1	1500	2,7	77	0,78	7,5	2,3	5,5	2,3
JS 90 L4	1,5	1500	3,5	79	0,79	10,23	2,3	5,7	2,3
JS 100 L1-4	2,2	1500	4,7	82	0,82	14,8	2,3	5,8	2,3
JS 110 L2-4	3	1500	6,3	83	0,83	20,18	2,3	6,0	2,3
JS 112 M-4	4	1500	8,2	85	0,83	26,53	2,3	6,5	2,3
JS 132 S4	5,5	1500	10,9	87	0,84	36,48	2,3	6,8	2,3
JS 132 M4	7,5	1500	14,5	88	0,85	49,74	2,3	6,9	2,3
KS 160 M1-4	11	1500	21,4	88,6	0,84	71,0	2,2	8,9	2,3
KS 160 L-4	15	1500	28,5	90,1	0,84	97,0	2,2	8,9	2,3
KS 180 M-4	18,5	1500	34,5	90,4	0,85	120	2,2	7,9	2,3
KS 180 L-4	22	1500	40,8	90,7	0,86	143	2,2	7,9	2,3
KS 200 L1-4	30	1500	55,1	91,6	0,86	195	2,2	7,9	2,3
KS 225 S-4	37	1500	65,9	92,6	0,88	240	2,2	7,9	2,3
KS 225 M-4	45	1500	78,4	93,0	0,89	291	2,2	7,9	2,3
KS 250 M-4	55	1500	95,4	93,5	0,89	355	2,2	7,9	2,3
KS 280 S-4	75	1500	129	94,1	0,89	486	2,2	7,9	2,3
KS 280 M-4	90	1500	155	94,3	0,89	583	2,2	7,9	2,3
KS 315 S-4	110	1500	151,2	94,6	0,89	710	2,1	7,6	2,2
KS 315 M-4	132	1500	226	94,9	0,89	852	2,1	7,6	2,2
KS 315 L1-4	160	1500	273	95,3	0,89	1032	2,1	7,6	2,2
KS 315 L2-4	200	1500	340	95,3	0,89	1291	2,1	7,6	2,2
KS 355 M-2-4	250	1500	430	95,3	0,89	1608	2,1	7,6	2,2
KS 355 L-2-4	315	1500	535	95,3	0,89	2026	2,1	7,6	2,2

Three-phase asynchronous motors - IE 1



Three-phase asynchronous motors 6-pole

Rotation speed: 1000 rpm

ISO-class: F

Motor protection: PTC / PTO

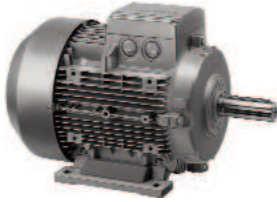
Design: B3 / B5 / B14 / B34 / B35

Energy Efficiency: IE 1

Type	Power	Speed	Rated current	Efficiency	Power factor	Rated rotor torque	Locked rotor torque	Locked rotor current	Break down torque
	KW	1/ min	A	%	cos Phi	Nm	M_a/M_n	I_a/I_n	M_{max}/M_n
JS 71 2-6	0,25	900	0,90	60	0,68	2,65	1,9	4,0	2,0
JS 80 2-6	0,37	900	1,3	63	0,70	3,93	1,9	4,7	2,0
JS 80 2-6	0,55	900	1,7	66	0,72	5,84	1,9	4,7	2,1
JS 90 S6	0,75	900	2,1	70	0,72	7,87	2,0	5,5	2,1
JS 90 L6	1,1	900	3,0	73	0,73	11,54	2,0	5,5	2,1
JS 100 L6	1,5	900	3,7	78	0,76	15,24	2,0	5,5	2,1
JS 112 M6	2,2	900	5,2	80	0,76	22,35	2,1	6,5	2,1
JS 132 S6	3	900	6,8	82	0,77	29,84	2,1	6,5	2,1
JS 132 M1-6	4	900	9,0	83	0,77	39,79	2,1	6,5	2,1
JS 132 M2-6	5,5	900	11,0	85	0,78	54,71	2,1	6,5	2,1
JS 160 M-6	7,5	900	16,2	86,5	0,78	74	2,0	6,9	2,1
KS 160 L-6	11	900	23,2	87,9	0,78	108	2,0	6,9	2,1
KS 180 L-6	15	900	24,0	89,0	0,81	148	2,0	7,5	2,1
KS 200 L-1-6	18,5	900	29,4	89,7	0,81	182	2,1	7,5	2,1
KS 200 L-2-6	22	900	34,0	90,3	0,83	217	2,1	7,5	2,1
KS 225 M-6	30	900	45,0	91,5	0,84	292	2,0	7,5	2,1
KS 250 M-6	37	900	53,8	92,3	0,86	361	2,1	7,5	2,1
KS 280 S-6	45	900	65,3	92,6	0,86	439	2,1	7,5	2,0
KS 280 M-6	55	900	79,3	93,0	0,86	536	2,1	7,5	2,0
KS 315 S-6	75	900	105,6	93,8	0,88	727	2,0	7,5	2,0
KS 315 M-6	90	900	125,6	94,5	0,88	873	2,0	7,3	2,0
KS 315 L-1-6	110	900	152,8	94,4	0,88	1066	2,0	7,3	2,0
KS 315 L-2-6	132	900	184,8	94,7	0,88	1280	2,0	7,3	2,0
KS 355 M-1-6	160	900	221,6	94,9	0,88	1543	1,9	7,3	2,0
KS 355 M-2-6	200	900	278,8	94,9	0,88	1929	1,9	7,3	2,0
KS 355 L-2-6	250	900	345,6	94,9	0,88	2412	1,9	7,3	2,0
KS 400 M-1-6	315	900	436,8	95,8	0,88	3039	1,4	6,1	2,9

subject to qualifications

Three-phase asynchronous motors - IE 1



Three-phase asynchronous motors 8-pole

Rotation speed: 750 rpm

ISO-class: F

Motor protection: PTC / PTO

Design: B3 / B5 / B14 / B34 / B35

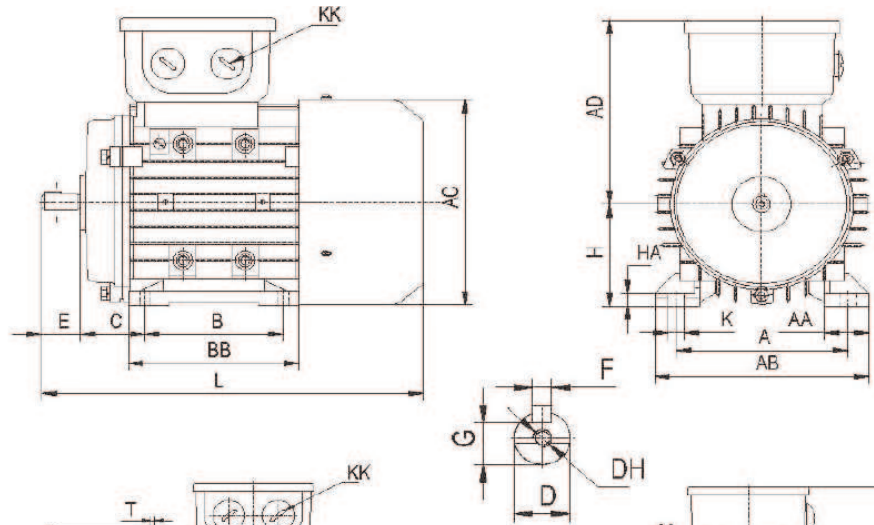
Energy Efficiency: IE 1

Type	Power	Speed	Rated current	Efficiency	Power factor	Rated rotor torque	Locked rotor torque	Locked rotor current	Break down torque
	KW	1/ min	A	%	cos Phi	Nm	M _a /M _n	I _a /I _n	M _{max} /M _n
JS 80 1-8	0,18	750	0,8	52	0,61	2,49	1,8	3,3	1,9
JS 80 2-8	0,25	750	1,1	55	0,61	3,46	1,8	3,3	1,9
JS 90 S8	0,37	750	1,4	63	0,61	5,12	1,8	4,0	1,9
JS 90 L8	0,55	750	2,0	64	0,61	7,61	1,8	4,0	2,0
JS 100 L1-8	0,75	750	2,2	72	0,67	10,23	1,8	4,0	2,0
JS 110 L2-8	1,1	750	3,1	74	0,69	15,00	1,8	5,0	2,0
JS 112 M8	1,5	750	4,1	76	0,69	20,46	1,8	5,0	2,0
JS 132 S8	2,2	750	5,6	79	0,72	29,59	1,8	6,0	2,0
JS 132 M8	3	750	7,3	80	0,74	40,35	1,8	6,0	2,0
KS 160 M1-8	4	750	9,7	81,7	0,73	53	1,9	6,9	2,0
KS 160 M2-8	5,5	750	12,9	83,4	0,74	73	2,0	6,9	2,0
KS 160 L-2-8	7,5	750	16,9	85,5	0,75	99	2,0	6,9	2,0
KS 180 L-8	11	750	24,0	87	0,76	144	2,0	6,8	2,0
KS 200 L-8	15	750	32,2	88,4	0,76	196	2,0	6,8	2,0
KS 225 S-8	18,5	750	39,4	89,4	0,79	242	1,9	6,8	2,0
KS 225 M8	22	750	44,8	90	0,79	288	1,9	6,8	2,0
KS 250 M-8	30	750	60	91,1	0,8	392	1,9	6,8	2,0
KS 280 S-8	37	750	72,8	91,7	0,8	484	1,9	6,8	2,0
KS 280 M-8	45	750	88	92,2	0,82	589	1,9	6,8	2,0
KS 315 S-8	55	750	105	93	0,82	715	1,8	6,8	2,0
KS 315 M-8	75	750	141	93,8	0,83	974	1,8	6,8	2,0
KS 315 L-1-8	90	750	167	94	0,85	1169	1,8	6,8	2,0
KS 315 L-2-8	110	750	198	94,3	0,86	1429	1,8	6,8	2,0
KS 355 M-1-8	132	750	234	94,7	0,87	1704	1,8	6,6	2,0
KS 355 M-2-8	160	750	280	95	0,87	2065	1,8	6,6	2,0
KS 355 L-2-8	200	750	350	95	0,81	2581	1,8	6,6	2,0
KS 400 M-1-8	250	750	469	95	0,81	3205	1,2	6,6	2,0
KS 400 M-2-8	280	750	525	95	0,85	3589	1,2	6,6	3,4
KS 400 L1-8	315	750	563	95	0,85	4038	1,2	6,6	3,4

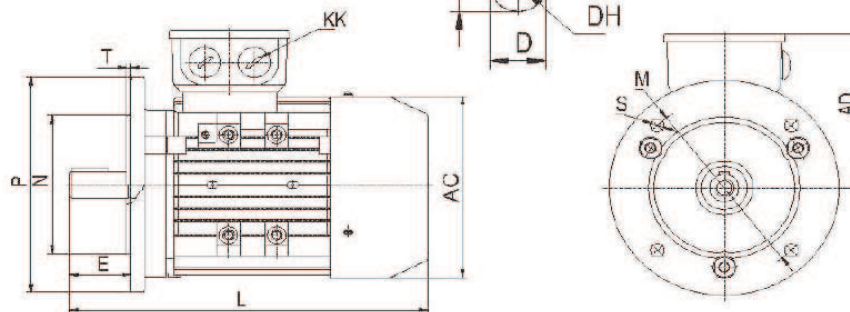
subject to qualifications

Three-phase asynchronous motors - IE 1

B3



B5



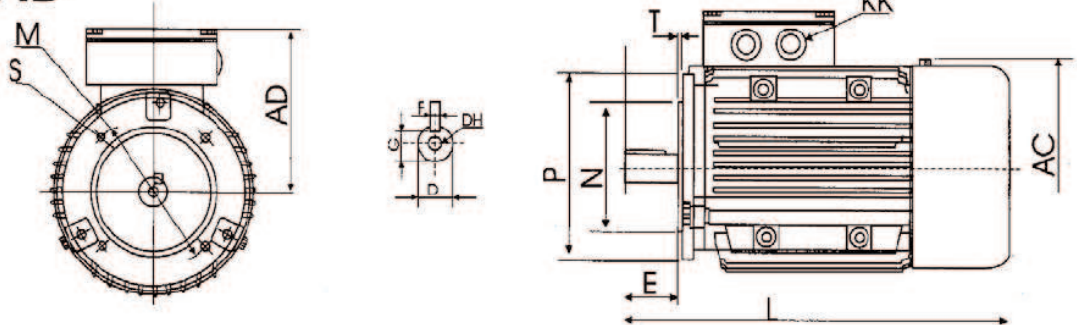
Type: JS... B3, B35, B34
 Type: JF... B5, B14A, B14B

Motor-type	A	AB	AC	AD	B	BB	C	D	DH	E	F	G	H	K	KK	L	B5				
																	M	N	P	S	T
JS56	90	115	110	100	71	88	36	9	M4X12	20	3	7,2	56	5,8	1-M20X1,5	199	100	80	120	7	3
JS63	100	135	130	111	80	100	40	11	M4X12	23	4	8,5	63	7	1-M20X1,5	217	115	95	140	10	3
JS71	112	150	145	118	90	110	45	14	M5X12	30	5	11	71	7	1-M20X1,5	245	130	110	160	10	3,5
JS80	125	165	175	134	100	125	50	19	M6X16	40	6	15,5	80	10	1-M25X1,5	287	165	130	200	12	3,5
JS90S	140	180	195	140	100	125	56	24	M8X19	50	8	20	90	10	1-M25X1,5	315	165	130	200	12	3,5
JS90L	140	180	195	140	125	150	56	24	M8X19	50	8	20	90	10	1-M25X1,5	340	165	130	200	12	3,5
JS100L	160	205	215	160	140	172	63	28	M10X22	60	8	24	100	12	1-M32X1,5	385	215	180	250	15	4
JS112M	190	230	240	178	140	181	70	28	M10X22	60	8	24	112	12	2-M32X1,5	400	215	180	250	15	4
JS132S	216	270	275	206	140	186	89	38	M12X28	80	10	33	132	12	2-M32X1,5	483	265	230	300	15	4
JS132M	216	270	275	206	178	224	89	38	M12X28	80	10	33	132	12	2-M32X1,5	510	265	230	300	15	4

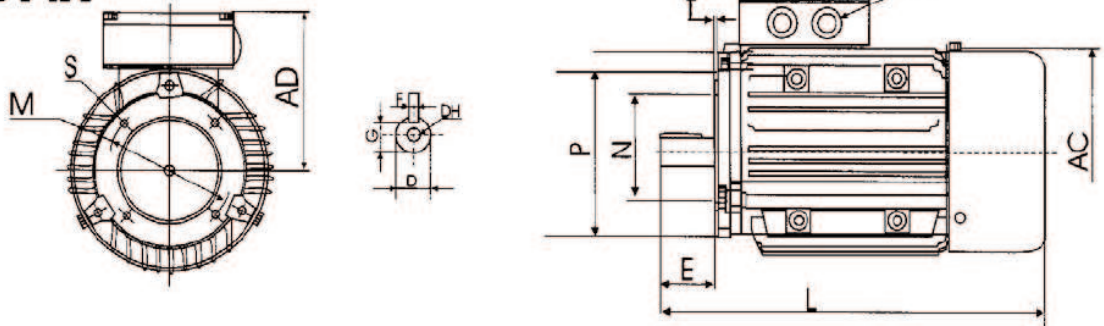
subject to qualifications

Three-phase asynchronous motors - IE 1

B14B



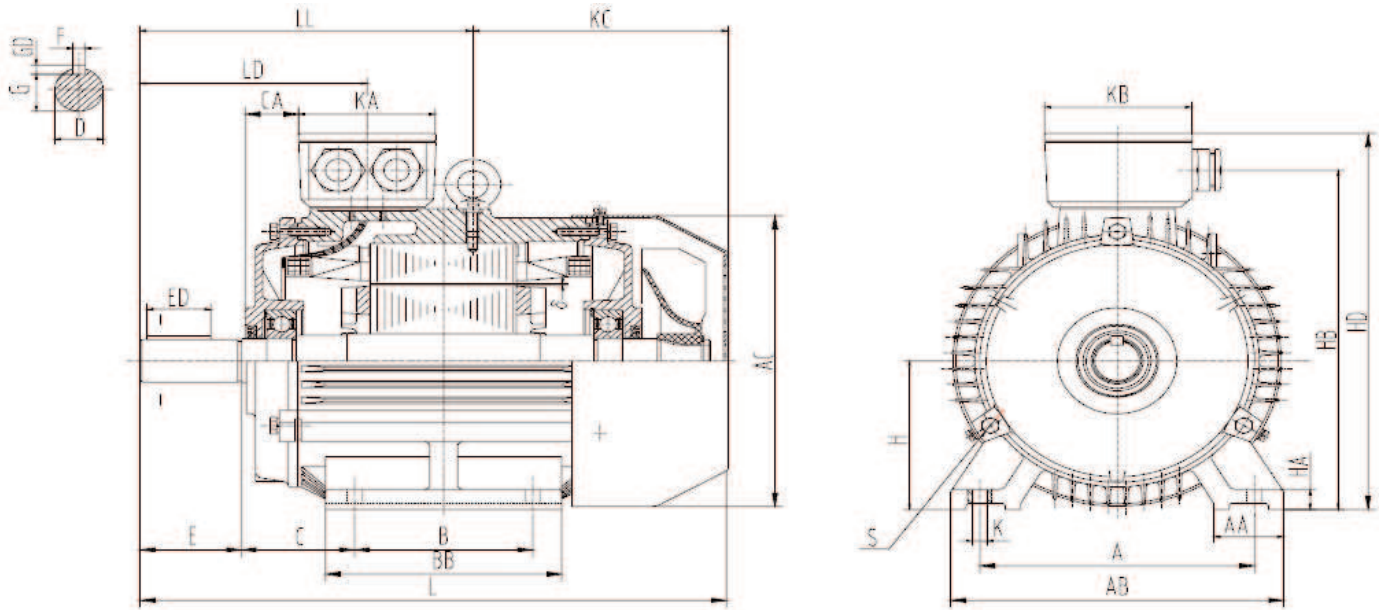
B14A



Motor-type	AC	AD	D	DH	E	F	G	KK	L	B14A					B14B				
										M	N	P	S	T	M	N	P	S	T
JF56	110	100	9	M4X12	20	3	7,2	1-M20X1,5	199	65	50	80	M5	2,5	85	70	105	M6	2,5
JF63	130	111	11	M4X12	23	4	8,5	1-M20X1,5	217	75	60	90	M5	2,5	100	80	120	M6	2,5
JF71	145	118	14	M5X12	30	5	11	1-M20X1,5	245	85	70	105	M6	2,5	115	95	140	M8	3
JF80	175	134	19	M6X16	40	6	15,5	1-M25X1,5	287	100	80	120	M6	3	130	110	160	M8	3,5
JF90S	195	140	24	M8X19	50	8	20	1-M25X1,5	315	115	95	140	M8	3	130	110	160	M8	3,5
JF90L	195	140	24	M8X19	50	8	20	1-M25X1,5	340	115	95	140	M8	3	130	110	160	M8	3,5
JF100L	215	160	28	M10X22	60	8	24	1-M32X1,5	385	130	110	160	M8	3,5	165	130	200	M10	3,5
JF112M	240	178	28	M10X22	60	8	24	2-M32X1,5	400	130	110	160	M8	3,5	165	130	200	M10	3,5
JF132S	275	206	38	M12X28	80	10	33	2-M32X1,5	483	165	130	200	M10	3,5	215	180	250	M12	4
JF132M	275	206	38	M12X28	80	10	33	2-M32X1,5	510	165	130	200	M10	3,5	215	180	250	M12	4

subject to qualifications

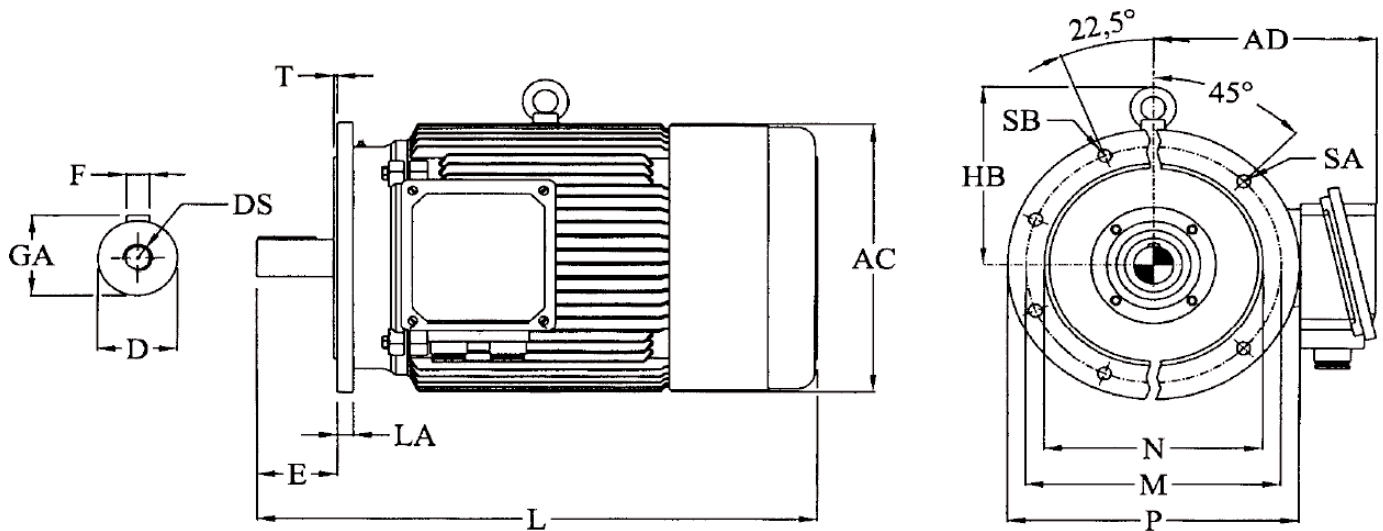
Three-phase asynchronous motors - IE 1



Motor-type	PN Type DIN	Anbaumaße, mm																																	
		A	B	C	H	K	D		E		F		G		GD	ED		DH	AA	AB	AC	BB	HA	HD	L		LD		LL		CA	HB	KA	KB	KC
							2P	4-8P	2P	4-8P	2P	4-8P	2P	4-8P	2P	4-8P		2P	4-8P							2P	4-8P	2P	4-8P	2P	4-8P				
KS160	M	FF300	254	210	108	160	15	42k6		110	12	37		8	90	M16	65	320	330	260	20	420	615	156	374		66	371	172	182	241				
	L	A350	254	254	108	160	15	42k6		110	12	37		8	90	M16	65	320	330	304	20	420	670	156	385		66	371	172	182	285				
KS180	M	FF300	279	241	121	180	15	48k6		110	14	42,5		9	90	M16	70	355	380	311	22	455	700	271	380	81	417	172	182	320					
	L	A350	279	279	121	180	15	48k6		110	14	42,5		9	90	M16	70	355	380	349	22	455	740	271	380	81	417	172	182	360					
KS200	L	FF350 A400	318	305	133	200	19	55m6		110	16	49		10	90	M20	70	395	420	369	25	505	770	296	427	92	449	210	230	343					
KS225	S	FF400	356	286	149	225	19	-	60m6	-	140	-	18	49	53	10	11	90	110	368	28	560	-	815	-	329	-	458	95	505	210	230	362		
	M	A450	311	311	149	225	19	55m6	60m6	110	140	16	18	49	53	10	11	90	110	393	28	560	820	845	290	329	428	458	95	505	210	230	387		
KS250	M	FF500 A550	406	349	168	250	24	60m6	65m6	140	18	53	58	11	11	110	M20	80	490	510	445	30	615	910	347	497	99	560	238	268	418				
KS280	S	FF500	457	368	190	280	24	65m6	75m6	140	18	20	58	67,5	11	12	110	M20	85	550	580	485	35	680	985	355	515	107	620	238	268	470			
	M	A550	419	419	190	280	24	65m6	75m6	140	18	20	58	67,5	11	12	110	M20	85	580	536	35	680	1035	355	530	107	620	238	268	505				
KS315	S	FF600	508	406	216	315	28	65m6	80m6	140	170	18	22	58	71	11	14	110	140	570	45	845	1180	1270	397	612	642	117	726	310	352	578			
	M	A660	508	457	216	315	28	65m6	80m6	140	170	18	22	58	71	11	14	110	140	680	45	845	1190	1300	437	427	647	677	117	726	310	352	653		
KS355	M	FF740	610	560	254	355	28	75m6	100m6	140	210	20	28	67,5	100	12	14	130	200	M24	120	730	710	750	52	1010	1500	1570	424	745	119	900	370	420	750
	L	FF740	630	630	254	355	28	75m6	100m6	140	210	20	28	67,5	100	12	14	130	200	M24	120	730	710	750	52	1010	1500	1570	454	815	119	900	370	420	750

subject to qualifications

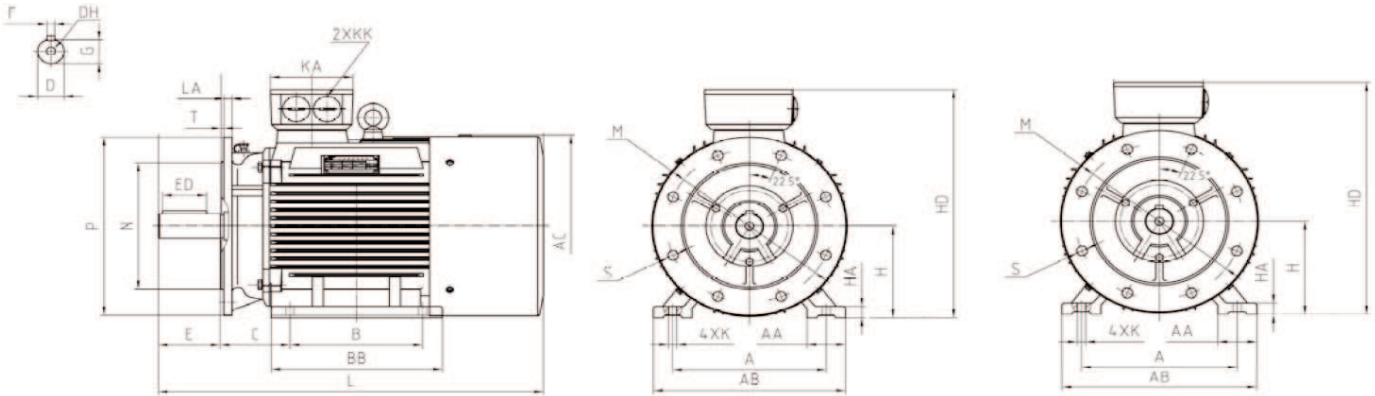
Three-phase asynchronous motors - IE 1



Motor-type	Anbaumaße, mm																				
	PN type	M	N	P	LA	SA	T	D		E		F		GA		AC	HB	AD	L		
	DIN		j6			∅		2P	4-8P	2P	4-8P	2P	4-8P	2P	4-8P				2P	4-8P	
KF160	M	FF300	300	250	350	18	4x 19	5	42k6		110		12		45		314	228	255	615	
	L	A350																		670	
KF180	M	FF300	300	250	350	20	4x 19	5	48k6		110		14		51,5		352	254	280	700	
	L	A350																		740	
KF200	L	A400	350	300	400	22	4x 19	5	55m6		110		16		59		395	283	305	770	
KF225	S	FF400	400	350	450	22	8x 19	5	-	60m6	-	140	-	18	-	64	-	268	335	-	820
	M	A450							55m6		110		16		59		470			815	845
KF250	M	A550	500	450	550	24	8x 19	5	60m6	65m6	140		18		64	69	480	325	370	910	
KF280	S	FF500	500	450	550	24	8x 19	5	65m6	75m6	140		18		69	79,5	547	360	400	985	
	M	A550																		1035	
KF315	S	FF600																		1185	1215
	M	A660	600	550	660	25	8x 24	6	65m6	80m6	140	170	18	22	69	85	620	430	530	1295	1325
	L																				
KF355	M	FF740	740	680	800	25	8x 24	6	75m6	100m6	140	210	20	25	79,5	106	710	490	655	1500	1570
	L																				

subject to qualifications

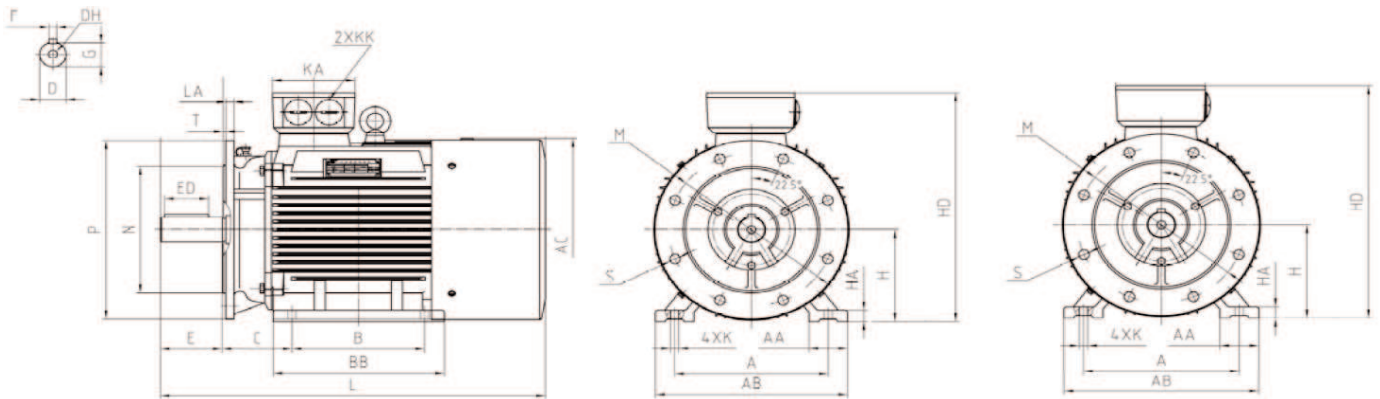
Three-phase asynchronous motors - IE 1



Motor-type	Anbaumaße, mm																																		
	A	B	C	H	K	D		E		F		GA		AA	AB	AC	BB	HA	AD	L		PN Type DIN	M	N j6	P	LA	S Ø	T							
						2P	4-8P	2P	4-8P	2P	4-8P	2P	4-8P						2P	4-8P															
KS160 M L	254	210	108	160	15	42k6		110		12		45		65	320	314	274	22	255	615		FF300	300	250	350	18	4x19	5							
		254																		670									A350						
KS180 M L	279	241	121	180	15	48k6		110		14		51,5		70	355	352	315	25	280	700		FF300	300	250	350	20	4x19	5							
		279																		740									A350						
KS200 L	318	305	133	200	19	55m6		110		16		59		70	395	395	375	28	305	770		FF350	350	300	400	22	4x19	5							
KS225 S M	356	286	149	225	19	60m6		140		18		59		64	75	435	470	375	31	335	820		FF400	400	350	450	22	8x19	5						
		311				55m6		110		16		18		59		64	75	435			470	400								815 845		A450			
KS250 M	406	349	168	250	24	60m6	65m6	140		18		64		69	80	490	480	450	33	370	910		FF500	500	450	550	24	8x19	5						
KS280 S M	457	368	190	280	24	65m6		140		18		20		69		79,5	85	550	547	435	38	400	985		FF500	500	450	550	24	8x19	5				
		419				65m6		140		18		20		69		79,5	85	550	547	536			1035									A550			
KS315 M L	508	406	216	315	28	65m6		80m6		140		170		18		22		69		85	120	635	620	570	48	530	1185 1215		FF600	600	550		660	25	8x24
		457				65m6		80m6		140		170		18		22		69		85	120	635	620	680			1295 1325					A660			
KS355 M L	610	560	254	355	28	75m6		100m6		140		210		20		25		79,5		106	116	730	710	760	57	655	1500 1570		FF740	740	680		800	25	8x24
		630				75m6		100m6		140		210		20		25		79,5		106	116	730	710	760											

subject to qualifications

Three-phase asynchronous motors - IE 1



Typ / Type KS

Baugröße / Size / hauteur d'axe 400

B3

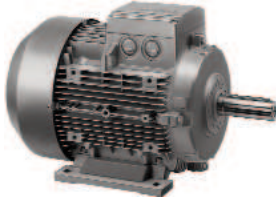
Motor-type	Anbaumaße, mm																	
	A	B	C	H	K	D 4-8P	E 4-8P	F 4-8P	G 4-8P	GD 4-8P	AA	AB	AC	BB	HA	HD	L 4-8P	LD 4-8P
KS400	686	630	280	400	35	110m6	210	28	100	16	120	806	856	1090	45	1010	1920	435
M		710																

B35

Motor-type	Anbaumaße, mm																							
	A	B	C	H	K	D 4-8P	E 4-8P	F 4-8P	G 4-8P	GD 4-8P	AA	AB	AC	BB	HA	HD	L 4-8P	LD 4-8P	LA	LB	M	N	P	S
KS400	686	630	280	400	35	110m6	210	28	100	16	120	806	856	1090	45	1010	1920	435	25	1710	940	880	1000	8x28
M		710																						

subject to qualifications

Three-phase asynchronous motors - IE 2



Three-phase asynchronous motors 2-pole

Rotation speed: 3000 rpm

ISO-class: F

Motor protection: PTC / PTO

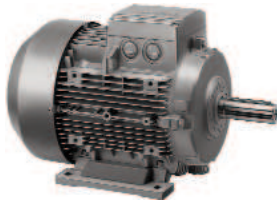
Design: B3 / B5 / B14 / B34 / B35

Energy Efficiency: IE 2 | IEC60034-30:2008-IEC60034-2-1-2007

Type	Power	Speed	Rated current	Efficiency	Power factor	Rated rotor torque	Locked rotor torque	Locked rotor current	Break down torque
	kW	1/ min	A	%	cos Phi	Nm	M_a/M_n	I_a/I_n	M_{max}/M_n
JS 80 1-2	0,75	3000	1,7	77,6	0,83	2,49	2,5	5,3	3,0
JS 80 2-2	1,1	3000	2,4	79,7	0,84	3,65	3,2	7,0	3,8
JS 90 S-2	1,5	3000	3,1	81,6	0,84	4,96	2,7	7,1	3,5
JS 90 L-2	2,2	3000	4,5	83,3	0,85	7,27	2,4	6,9	3,0
JS 100 L-2	3	3000	5,9	84,9	0,87	9,91	3,2	8,0	4,0
JS 112 M-2	4	3000	7,6	85,9	0,88	13,11	2,5	7,5	3,0
JS 132 S-1-2	5,5	3000	10,6	87,1	0,86	17,88	2,7	7,5	3,5
JS 132 S-2-2	7,5	3000	13,9	88,4	0,88	24,36	2,4	7,5	3,3
KS 160 M-1-2	11	3000	19,9	90,9	0,88	35,70	2,5	7,8	3,0
KS 160 M2-2	15	3000	26,9	90,8	0,89	48,90	2,3	7,1	2,7
KS 160 L-2	18,5	3000	32,6	91,6	0,90	60,16	2,7	8,1	2,9
KS 180 M-2	22	3000	37,4	92,1	0,92	71,14	2,6	8,0	3,2
KS 200 L-1-2	30	3000	51,8	92,0	0,90	96,44	2,3	7,2	3,0
KS 200 L-2-2	37	3000	64,0	92,5	0,90	119,28	2,4	8,0	4,0
KS 225 S-2	45	3000	81,3	93,7	0,90	144,60	2,2	8,0	3,4
KS 250 M-2	55	3000	93,4	94,1	0,90	176,60	2,2	7,6	3,0
KS 280 S-2	75	3000	130,1	94,4	0,91	240,30	2,4	8,3	3,5
KS 280 M-2	90	3000	152,8	94,7	0,91	288,60	2,2	6,9	2,8
KS 315 S-2	110	3000	190,8	94,8	0,91	352,70	2,0	6,7	3,2
KS 315 M-2	1 32	3000	217,8	95,3	0,92	423,30	2,4	7,5	3,6
KS 315 L-1-2	160	3000	261,7	95,5	0,92	513,80	2,0	6,3	3,0
KS 315 L-2-2	200	3000	335,3	95,5	0,92	641,20	2,6	7,6	3,7
KS 355 M-2	250	3000	404,2	95,4	0,94	801,10	1,7	6,1	2,7
KS 355 L-2	315	3000	507,2	95,8	0,94	1009,6	1,7	5,8	2,6

subject to qualifications

Three-phase asynchronous motors - IE 2



Three-phase asynchronous motors 4-pole

Rotation speed: 1500 rpm

ISO-class: F

Motor protection: PTC / PTO

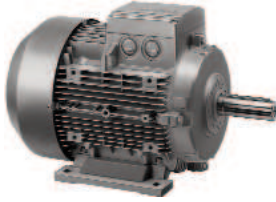
Design: B3 / B5 / B14 / B34 / B35

Energy Efficiency: IE 2 | IEC60034-30:2008-IEC60034-2-1-2007

Type	Power	Speed	Rated current	Efficiency	Power factor	Rated rotor torque	Locked rotor torque	Locked rotor current	Break down torque
	kW	1/ min	A	%	cos Phi	Nm	M _a /M _n	I _a /I _n	M _{max} /M _n
JS 80 2-4	0,75	1500	1,8	79,8	0,76	5,12	2,4	5,0	2,9
JS 90 S-4	1,1	1500	2,5	81,6	0,77	7,30	3,0	6,0	3,5
JS 90 L-4	1,5	1500	3,4	82,9	0,77	9,91	3,2	6,8	3,5
JS 100 L-1-4	2,2	1500	4,6	84,5	0,81	14,60	3,0	7,0	3,5
JS 110 L-2-4	3	1500	6,1	85,5	0,82	19,9	2,5	7,0	3,3
JS 112 M-4	4	1500	8,1	86,7	0,82	26,40	3,5	7,6	4,0
JS 132 S-4	5,5	1500	10,9	87,8	0,83	36,10	2,2	6,4	2,8
JS 132 M-4	7,5	1500	14,5	88,7	0,84	49,20	2,4	7,0	3,0
KS 160 M-1-4	11	1500	21,1	90,9	0,83	71,30	2,4	8,2	3,1
KS 160 L-4	15	1500	28,1	91,1	0,85	97,40	2,2	7,1	2,5
KS 180 M-4	18,5	1500	34,7	92,1	0,85	119,90	2,2	7,9	2,9
KS 180 L-4	22	1500	39,8	92,4	0,85	142,70	2,2	8,3	2,9
KS 200 L-4	30	1500	54,8	92,7	0,85	193,90	2,3	7,2	3,0
KS 225 S-4	37	1500	65,1	93,2	0,88	238,20	2,4	7,5	3,0
KS 225 M-4	45	1500	83,2	93,6	0,88	289,90	2,5	7,4	3,1
KS 250 M-4	55	1500	97,1	94,1	0,88	354,20	2,3	6,9	2,8
KS 280 S-4	75	1500	130,5	94,5	0,88	481,80	2,4	7,2	3,1
KS 280 M-4	90	1500	156,8	94,8	0,88	578,20	2,3	6,9	3,0
KS 315 S-4	110	1500	185,0	94,8	0,91	706,30	2,2	6,7	2,9
KS 315 M-4	132	1500	221,8	95,0	0,90	848,00	2,4	7,4	2,9
KS 315 L-1-4	160	1500	265,2	95,5	0,91	1027,50	2,3	6,7	2,8
KS 315 L-2-4	200	1500	328,8	95,5	0,92	1285,10	2,2	6,2	2,6
KS 355 M-2-4	250	1500	407,0	95,3	0,93	1603,90	2,1	5,7	2,5
KS 355 L-2-4	315	1500	513,2	95,7	0,93	2020,30	2,4	7,2	2,6

subject to qualifications

Three-phase asynchronous motors - IE 2



Three-phase asynchronous motors 6-pole

Rotation speed: 1000 rpm

ISO-class: F

Motor protection: PTC / PTO

Design: B3 / B5 / B14 / B34 / B35

Energy Efficiency: IE 2 | IEC60034-30:2008-IEC60034-2-1-2007

Type	Power	Speed	Rated current	Efficiency	Power factor	Rated rotor torque	Locked rotor torque	Locked rotor current	Break down torque
	kW	1/ min	A	%	cos Phi	Nm	M _a /M _n	I _a /I _n	M _{max} /M _n
JS 90 S-6	0,75	900	1,9	75,1	0,72	7,67	2,2	4,5	2,4
JS 90 L-6	1,1	900	2,8	76,1	0,72	11,10	2,4	4,5	2,6
JS 100 L-6	1,5	900	3,6	80,0	0,75	15,20	1,8	4,2	2,2
JS 112 M-6	2,2	900	5,1	81,9	0,76	21,90	2,3	4,5	2,8
JS 132 S-6	3	900	6,8	83,4	0,76	29,70	1,8	4,5	2,4
JS 132 M-1-6	4	900	8,9	84,8	0,76	39,60	2,3	5,0	2,7
JS 132 M-2-6	5,5	900	12,0	86,2	0,77	54,40	1,9	5,5	2,8
JS 160 M-6	7,5	900	15,3	89,0	0,80	73,80	2,2	6,7	3,0
KS 160 M-1-6	11	900	22,3	89,3	0,80	108,20	2,1	6,7	2,5
KS 180 L-6	15	900	29,3	90,6	0,82	146,10	2,1	7,0	2,6
KS 200 L-1-6	18,5	900	35,8	91,4	0,82	179,50	2,5	7,5	3,1
KS 200 L-2-6	22	900	42,2	91,2	0,83	213,80	2,4	7,2	2,9
KS 225 M-6	30	900	59,0	92,1	0,83	291,00	2,3	7,2	2,7
KS 250 M-6	37	900	67,8	92,8	0,85	358,60	2,4	7,5	3,0
KS 280 S-6	45	900	81,4	93,3	0,85	434,10	2,2	7,0	3,1
KS 280 M-6	55	900	100,8	80,6	0,85	530,20	2,1	7,3	3,1
KS 315 S-6	75	900	134,6	94,2	0,85	722,80	2,3	6,7	2,9
KS 315 M-6	90	900	160,3	94,6	0,86	867,30	2,4	6,8	2,9
KS 315 L-1-6	110	900	194,6	94,6	0,86	1061,20	2,2	6,2	2,5
KS 315 L-2-6	132	900	230,8	95,2	0,87	1271,60	2,5	7,1	2,8
KS 355 M-1-6	160	900	269,1	94,8	0,91	1543,50	2,0	6,5	2,6
KS 355 M-2-6	200	900	331,5	95,2	0,91	1929,90	1,9	6,3	2,5
KS 355 L-6	250	900	414,2	95,3	0,91	2415,30	1,7	5,6	2,2

subject to qualifications

Three-phase asynchronous motors - IE 2

			<p>Typ: JS Baugröße: 56 - 132</p>	<p>B3</p>
		<p>Typ: JS Baugröße: 56 - 132 Typ: JS Baugröße: 56 - 132</p>	<p>B3</p>	
		<p>Typ: JS Baugröße: 56 - 132</p>	<p>B5</p>	
		<p>Typ: JS Baugröße: 56 - 132 Typ: JS Baugröße: 56 - 132</p>	<p>B5</p>	
		<p>Typ: JS Baugröße: 56 - 132</p>	<p>B35</p>	
		<p>Typ: JS Baugröße: 56 - 132 Typ: JS Baugröße: 56 - 132</p>	<p>B35</p>	

ab BG 280 8 Befestigungslöcher

Three-phase asynchronous motors - IE 2

Typ: JS/JF
HS/HF
Baugröße: 56 - 355

B3 / B5 / B35

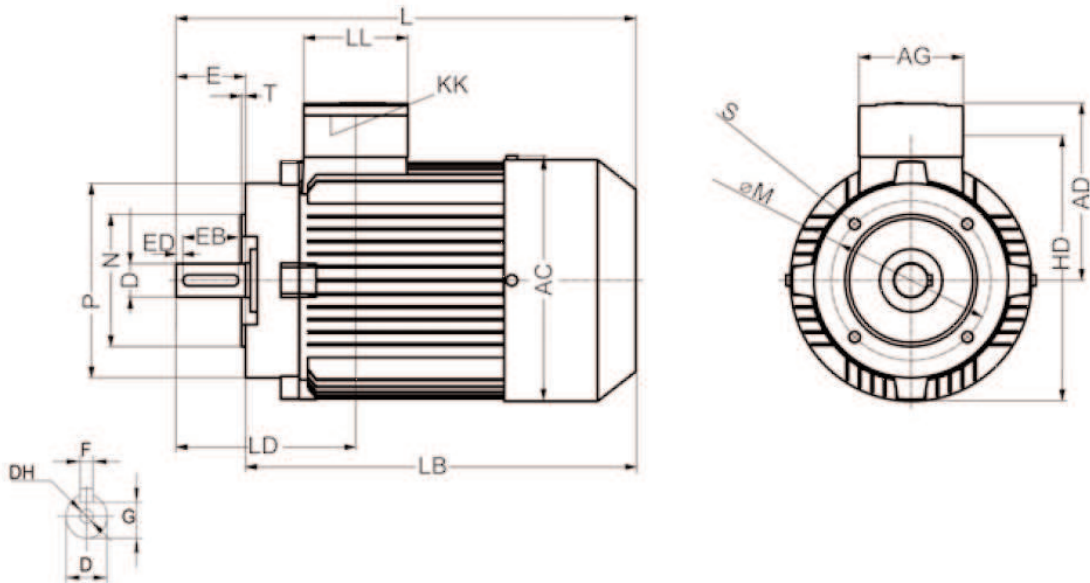
Motor-type		A	B	C	D	DH	E	F	G	H	K	AB	AC	AD	BB	L	M	N j6	P	S	T
JS56	2-6	90	71	36	9	M4x12	20	3	7,2	56	5,8	115	110	100	88	199	100	80	120	7	3
	8											111	113	96							
JS63	2-6	100	80	40	11	M4x12	23	4	8,5	63	7	135	130	111	100	217	115	95	140	10	3
	8											123	120	102							
JS71	2-6	112	90	45	14	M5x12	30	5	11	71	7	150	145	118	110	245	130	110	160	10	3
	8											138	136	109							
JS80	2-6	125	100	50	19	M6x16	40	6	15,5	80	10	165	175	134	125	287	165	130	200	12	3,5
	8											157	155	124							
JS90S	2-6	140	125	56	24	M8x19	50	0	20	90	10	180	195	140	150	315	215	180	250	15	4
	8											173	175	137							
JS90L	2-6	140	125	56	24	M8x19	50	0	20	90	10	180	195	140	150	310	215	180	250	15	4
	8											173	175	137							
JS100L	2-6	160	140	63	28	M10x22	60	0	24	117	12	205	215	160	172	385	215	180	250	15	4
	8											196	195	151							
JS112M	2-6	190	140	70	28	M10x22	60	0	24	117	12	230	240	170	180	400	215	180	250	15	4
	8											227	219	169							
JS132S	2-6	216	178	89	38	M12x28	80	10	33	132	12	270	275	206	186	483	265	230	300	15	4
	8											262	258	206							
JS132M	2-6	216	178	89	38	M12x28	80	10	33	132	12	270	275	206	224	510	265	230	300	15	4
	8											262	258	206							
HS160M	2-8	254	210	108	42	M16x36	110	12	37	160	14,5	314	314	251	260	608	300	250	350	4x19	5
HS160L	2-0		254																		
HS180M	2-8	279	241	121	48	M16x36	110	14	42,5	180	14,5	349	355	267	311	688	300	250	350	4x19	5
HS180L	2-8		279																		
HS200I	2-8	318	305	133	55	M16x36	110	16	49	200	15,5	368	397	299	369	779	350	300	400	4x19	5
HS225S	2-8	356	286	149	60	M16x36	110	14	53	225	18,5	431	46	322	368	824	400	350	450	4x19	5
HS225M	2-8		311																		
HS250M	2	406	349	188	60	M16x36	110	18	53	250	18,5	464	485	358	445	910	400	350	450	4x19	5
	4-8																				
HS280S	2	457	368	190	75	M16x36	140	20	67,5	280	24	542	547	387	485	981	500	450	550	4x19	5
	4-6																				
HS280M	2	419	368	190	75	M16x36	140	18	68	280	24	542	547	387	536	1033	500	450	550	4x19	5
	4-8																				
HS315S	2	500	406	216	80	M20x42	170	22	71	315	28	620	620	527	570	1194	600	550	560	8x24	6
	4-8																				
HS315M	2	500	457	216	80	M20x42	140	18	58	315	28	620	620	527	680	1304	600	550	560	8x24	6
	4-8																				
HS315L	2	500	406	216	80	M20x42	140	18	58	315	28	620	620	527	680	1304	600	550	560	8x24	6
	4-8																				
HS355M	2	610	500	254	100	M20x42	170	22	71	355	28	726	698	642	750	1486	740	680	300	8x24	6
	4-0																				
HS355I	2	610	500	254	100	M20x42	170	22	71	355	28	726	698	642	750	1486	740	680	300	8x24	6
	4-6																				
HS355I	2	610	500	254	100	M20x42	170	22	71	355	28	726	698	642	750	1486	740	680	300	8x24	6
	8																				

subject to qualifications

Three-phase asynchronous motors - IE 2

Typ: JF
 Baugröße: 56 - 132

B14A



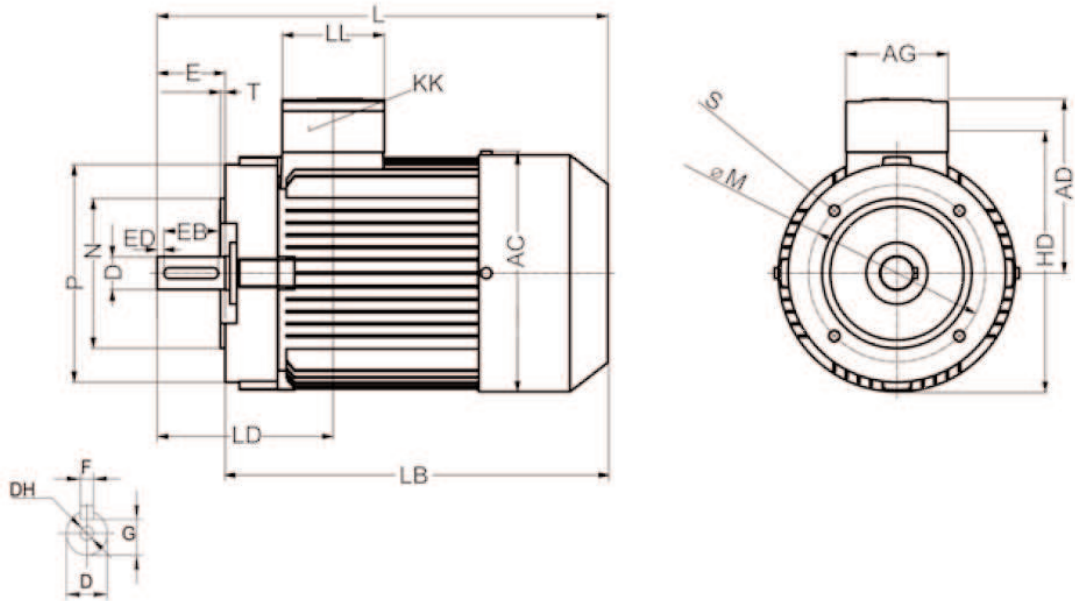
Motor-type		AC	AD	AG	D	DH	E	EB	ED	F	G	GA	HD	KK	L	LB	LD	LL	M	N	P	S	T
JF56	2-8	113	96	86	9	M4X12	20	16	2	3	7,2	10,2	152,5		199	179	63	86	65	50	80	M5	2,5
JF63	2-8	120	102		11		23	16	3,5	4	8,5	12,5	162	1-M20X1,5	217	194	72,5		75	60	90		
JF71	2-8	136	109		14	M5X12	30	25	2,5	5	11	16	177		245	215	80,5	101	85	70	105		
JF80	2-6	158	129	101	19	M6X16	40	30		6	15,5	21,5	208		290	250	75		100	80	120	M6	
	8	155	124										201,5		287	247	78						
JF90S	2-6		140										227,5	1-M25X1,5	325	275	95						3
	8		137										224,5		310	260	86						
JF90L	2-6	175	140	109	24	M8X19	50	40			20	27	227,5		350	300	95	109	115	95	140		
	8		137						5				224,5		335	285	86						
JF100L	2-6	198	156							8			255	1-M32X1,5	398	338	88,5					M8	
	8	195	151										248,5		383	323	84						
JF112M	2-6		166		28	M10X22	60	50			24	31	275,5		447	387	92		130	110	160		
	8	219	169										278,5		401	341							3,5
JF132S	2-6			117,5										2-M32X1,5	475	395	100	117,5					
	8																		165	130	200	M10	
JF132M	2-6	258	188		38	M12X28	80	65	7,5	10	33	41	317		513	433	100						
	8																						

subject to qualifications

Three-phase asynchronous motors - IE 2

Typ: JF
 Baugröße: 56 - 132

B14B



Motor-type		AC	AD	AG	D	DH	E	EB	ED	F	G	GA	HD	KK	L	LB	LD	LL	M	N	P	S	T
JS56	2-8	113	96	86	9	M4X12	20	16	2	3	7,2	10,2	152,5		199	179	63	86	85	70	105	M6	2,5
JS63	2-8	120	102		11			23	16	3,5	4	8,5	12,5	162	1-M20X1,5	217	194	72,5		100	80	120	M6
JS71	2-8	136	109	101	14	M5X12	30	25	2,5	5	11	16	179		245	215	80,5	101	115	95	140		3
JS80	2-6 8	158 155	129 124		19	M6X16	40	30		6	15,5	21,5	209 204		290 287	250 247	75 78						
JS90S	2-6 8	175	140 137	109	24	M8X19	50	40	5	20	27	227,5 224,5	1-M25X1,5	325 310	275 260	95 86	109	130	110	160	M8	3,5	
JS90L	2-6 8		140 137									227,5 224,5		350 335	300 285	95 86							
JS100L	2-6 8	198 195	156 151	28	M10X22	60	50	8	24	31	256 251	1-M32X1,5	398 383	338 323	88,5 84	165	130	200	M10				
JS112M	2-6 8	219 169	166 169								278,5		447 401	387 341	92								
JS132S	2-6 8	258	188	117,5	38	M12X28	80	65	7,5	10	33	41	317	2-M32X1,5	475 513	395 433	100	117,5	215	180	250	M12	4
JS132M	2-6 8																						

subject to qualifications

Single-phase motors



Single-phase motors 2-pole | 4-pole

Rotation speed: 1000 rpm

ISO-class: F

Motor protection: PTC / PTO

Design: B3 / B5 / B14 / B34 / B35

Start capacitor and operate capacitor

Type	Power	Speed	Rated current	Efficiency	Power factor	Rated rotor torque	Operate capacitor	Start capacitor	Locked rotor torque
	KW	1/ min	A	%	cos Phi	Nm	uF	uF	Mmax/Mn
TSW 63-1-2	0,18	3000	1,31	65,0	0,92	2,50	8	40	1,70
TSW 63-2-2	0,25	3000	1,76	67,0	0,92	2,60	10	50	1,70
TSW 71-1-2	0,37	3000	2,42	70,0	0,95	2,70	12	75	1,70
TSW 71-2-2	0,55	3000	3,45	73,0	0,95	2,80	16	100	1,70
TSW 80-1-2	0,75	3000	4,54	74,0	0,97	2,90	20	100	1,70
TSW 80-2-2	1,1	3000	6,45	76,0	0,97	2,10	25	150	1,70
TSW 90S-2	1,5	3000	8,62	78,0	0,97	2,11	40	150	1,80
TSW 90 L-2	2,2	3000	12,5	79,0	0,97	2,20	50	250	1,80
TSW 63-1-4	0,12	1500	1,04	55,0	0,91	2,50	10	40	1,60
TSW 63-2-4	0,18	1500	1,50	56,0	0,91	2,50	12	40	1,60
TSW 71-1-4	0,25	1500	1,94	61,0	0,92	2,50	14	50	1,60
TSW 71-2-4	0,37	1500	2,80	62,5	0,92	2,50	16	75	1,50
TSW 80-1-4	0,55	1500	3,80	67,0	0,94	2,50	20	100	1,70
TSW 80-2-4	0,75	1500	4,75	73,0	0,94	2,50	25	150	1,70
TSW 90 S-4	1,1	1500	6,76	74,5	0,95	2,20	30	150	1,80
TSW 90 L-4	1,5	1500	9,03	76,0	0,95	2,20	40	220	1,80
TSW 100 L-1-4	2,2	1500	12,6	78,0	0,97	2,20	50	300	1,80

subject to qualifications

Single-phase motors



Single-phase motors 2-pole | 4-pole

Rotation speed: 1000 rpm

ISO-class: F

Motor protection: PTC / PTO

Design: B3 / B5 / B14 / B34 / B3

Operate capacitor

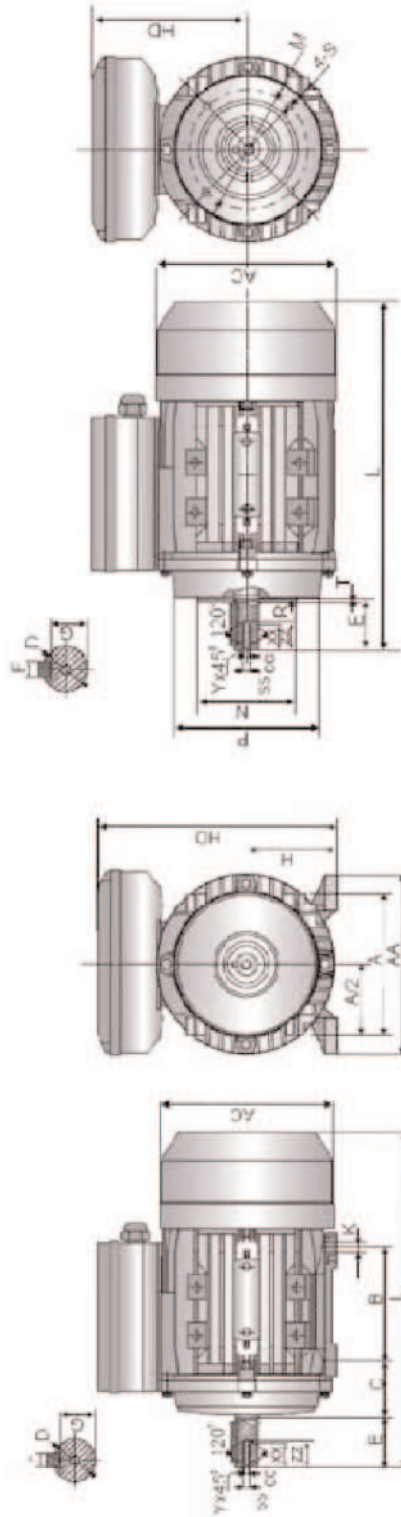
Type	Power	Speed	Rated current	Efficiency	Power factor	Rated rotor torque	Operate capacitor	Locked rotor torque
	KW	1/ min	A	%	cos Phi	Nm	uF	Mmax/Mn
TSW 63-1-2	0,18	3000	1,33	62,0	0,95	0,63	10	1,70
TSW 63-2-2	0,25	3000	1,76	65,0	0,95	0,87	12	1,70
TSW 71-1-2	0,37	3000	2,61	65,0	0,95	1,27	16	1,70
TSW 71-2-2	0,55	3000	3,66	68,0	0,96	1,88	20	1,70
TSW 80-1-2	0,75	3000	4,73	71,0	0,96	2,59	25	1,80
TSW 80-2-2	1,1	3000	6,73	72,5	0,98	3,74	35	1,70
TSW 90S-2	1,5	3000	8,87	75,0	0,98	5,10	45	1,80
TSW 90 L-2	2,2	3000	12,80	76,0	0,98	7,48	60	1,70
TSW 63-1-4	0,12	1500	1,04	55,0	0,92	0,85	10	1,60
TSW 63-2-4	0,18	1500	1,50	57,0	0,92	1,25	12	1,50
TSW 71-1-4	0,25	1500	1,94	60,0	0,92	1,73	16	1,50
TSW 71-2-4	0,37	1500	2,80	60,0	0,92	2,56	20	1,50
TSW 80-1-4	0,55	1500	3,80	63,0	0,91	3,75	20	1,70
TSW 80-2-4	0,75	1500	4,75	67,3	0,95	5,08	30	1,65
TSW 90 S-4	1,1	1500	6,76	68,5	0,92	7,45	40	1,70
TSW 90 L-4	1,5	1500	9,03	72,0	0,94	10,09	45	1,70
TSW 100 L-1-4	2,2	1500	12,6	74,0	0,92	14,69	75	1,80

subject to qualifications

Single-phase motors

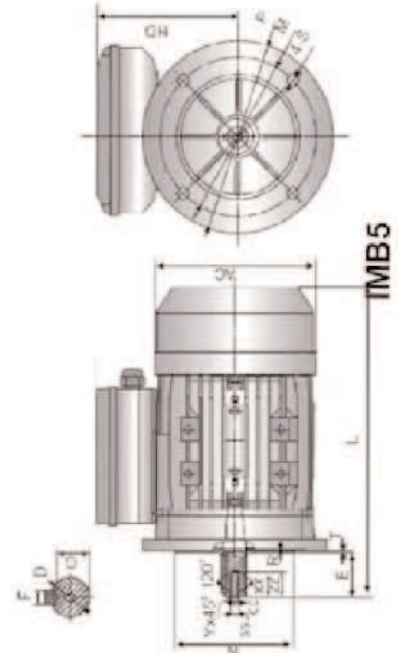
Typ: TSW
Baugröße: 56 - 100

Baugröße	B14										B5																				
	A	B	C	D	E	F	G	H	K	M	N	P	R	S	T	M	N	P	R	S	T	AA	AC	AD	HD	L	SS	XX	ZZ	CC	Y
56	93	71	36	8	20	3	7,2	65	5,6x8,8	56	50	80	C	ME	2,5	96	80	120	0	7	3,0	105	115	156	100	162	M3	8	12	2,5	0,5
63	100	80	40	11	23	4	8,5	63	7x10	75	60	90	C	ME	2,5	115	65	140	0	10	3,0	120	130	170	115	212	M4	10	15	3,3	0,8
71	112	90	45	14	30	5	11,0	71	7x0	95	70	105	C	ME	2,5	130	110	160	0	10	3,5	132	145	164	123	254	M5	12	16	4,2	0,6
80	126	100	50	19	40	6	16,6	80	10x13	100	80	120	C	ME	3,0	165	130	200	0	12	3,5	157	165	223	143	280	M6	16	22	5,0	1,0
ES5	140	110	56	24	50	8	20,0	90	10x13	116	95	140	C	ME	3,0	165	130	200	0	12	3,5	172	165	240,2	150	310	M8	20	25	6,8	1,0
ESL	140	126	56	24	50	8	20,0	90	10x13	116	95	140	C	ME	3,0	165	130	200	0	12	3,5	172	185	240	150	335	M8	20	25	6,8	1,0
100L	160	140	60	26	50	9	24,0	100	12x15	130	110	130	C	ME	3,4	215	160	230	0	14	4,0	193	205	300	160	375	M10	22	28	8,9	1,3



IMB14

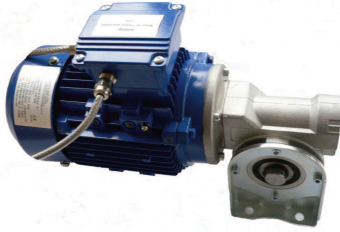
IMB3



IMB5

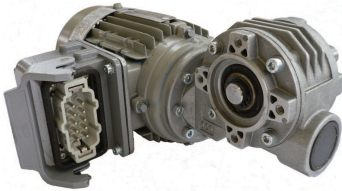
subject to qualifications

Customized motors

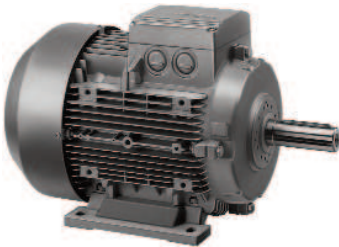


We provide individual geared motors

All standard motors will be supplied assembled to your needs with your required gear box and cord set.



MSF-Vathauer configures your required geared motor with motor cable or motor connector from several manufacturer.



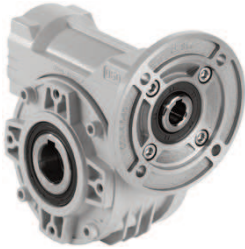
We provide standard motors in efficiency class EFF1 and EFF2 in frames from 50-132. Suitable to your needs with standard shaft or special shaft in high-strength steel.



IEC-Standard-Motors with mounted motor starter or frequency converter will be special customised to your needs.

IEC - standard gearboxes

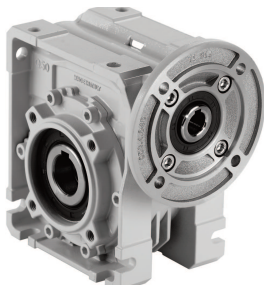
MSF-Vathauer supply different slip on gears for several applications.
For roller-conveyor, belt-conveyor, chain-conveyor, hopper and for the food and beverage industries.



Worm gearboxes

Worm gear boxes with hollow input shaft as well as hollow output shaft for flexible operation in sizes 030 to 110.

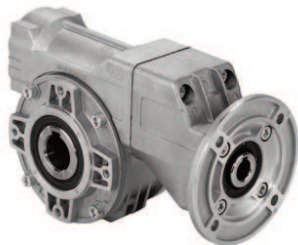
Applications: Belt-conveyor, chain-conveyor, roller-conveyor and screw conveyor.



Worm gearboxes

Quadratic worm gear boxes with hollow input shaft and hollow output shaft for flexible operation in sizes 025 to 110.

Applications: Sea water application, chemicals industry, food- and beverages industry and winches.



Pre-stage worm gearboxes

Worm gear boxes with primary reduction with hollow input shaft and hollow output shaft.

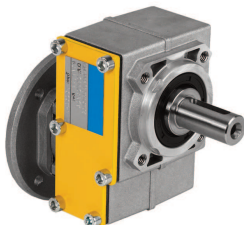
Torque: 50Nm to 730Nm



Axial gearboxes

Axial gear box with one, two- or three stages.
Torque 70Nm to 460Nm.

Application: Timber- and paper industry as well as veneer squeezing machine.



One stage gear box

Torque 30Nm to 118Nm. Various designs available.

Application: Pumps, Mixer, screw conveyor.

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