

# 4" ENCAPSULATED PERMANENT MAGNET MOTOR

## STANDARD SPECIFICATION

- 4" NEMA mounting design
- Stainless steel splined shaft
- StatorShield™ - Franklin encapsulation system
- Factory filled with Franklin's FES93 motor fill solution
- Max. storage temperature 0°C - + 50°C
- Liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- Field replaceable lead using Franklin's exclusive Water Bloc technology
- Pressure-equalizing diaphragm
- Protection IP68 and insulation class B Frequency of starts: 20 starts/ hour (with min. 3 minutes resting time), equally distributed
- All motors with factory installed leads 1.50 / 2.50 m
- Vertical and horizontal operation, shaftend heightend
- Ratings:  
0.55 - 3.0 kW; Thrust load 4 kN  
3.0 - 7.5 kW; Thrust load 6.5 kN
- Voltage: 220/380 V (100/120 Hz)
- Voltage tolerance  $U_N$ ;  $\pm 10\%$
- Nominal ambient temperature: 30 °C with 0.08 m/s cooling flow



## 3~ 304SS / 316SS MODEL NUMBER 220 V / 100 & 120 HZ

$P_N$ [kW]	$U_N$ [V]	Thrust F [N]	f [Hz]	Digit 1 - 6	Digit 7 - 10	
					Standard 304SS	Standard 316SS
					Single pack with lead*	Single pack with lead*
0.55 - 1.1	220	4000	100	234 071	6721L	6821L
			120	234 051		
1.1 - 2.2	220	4000	100	234 072	6721L	6821L
			120	234 052		
2.2 - 3.0	220	4000	100	234 073	6721L	6821L
			120	234 053		
3.0 - 4.0	220	6500	100	234 074	3421L	3521L
			120	234 054		

## 3~ 304SS / 316SS MODEL NUMBER 380 V / 100 HZ

$P_N$ [kW]	$U_N$ [V]	Thrust F [N]	f [Hz]	Digit 1 - 6	Digit 7 - 10	
					Standard 304SS	Standard 316SS
					Single pack with lead*	Single pack with lead*
1.1 - 2.2	380	4000	100	234 062	6721L	6821L
2.2 - 3.0	380	4000	100	234 063	6721L	6821L
3.0 - 4.0	380	6500	100	234 064	3421L	3521L
4.0 - 7.5	380	6500	100	234 066	3421L	3521L

\* lead lengths motors "L": with pre-mounted cable 1.50 m / 6500N - 2.50 m

## 4" 3~ ENCAPSULATED PERMANENT MAGNET MOTOR

### MOTOR PERFORMANCE DATA 220 V / 100 HZ

Motor model no.	P <sub>N</sub> [kW]	Thrust F [N]	U <sub>N</sub> [V]	n [min <sup>-1</sup> ]	I <sub>N</sub> [A]	I <sub>A</sub> /I <sub>N</sub> [A]	η [%]	cos phi	T <sub>N</sub> [Nm]	T <sub>A</sub> /T <sub>N</sub> *
234 071 ****	0,55	4000	220	3000	1,8	1	85,1	0,95	1,8	1
	0,75				2,4		85,6	0,97	2,4	
	1,1				3,8		83,5	0,99	3,5	
234 072 ****	1,1	4000	220	3000	3,4	1	86,4	0,96	3,5	1
	1,5				4,8		88,0	0,97	4,8	
	2,2				7,0		87,0	0,99	7,0	
234 073 ****	2,2	4000	220	3000	6,9	1	90,3	0,96	7,0	1
	3,0				9,4		90,2	0,97	9,6	
234 074 ****	3,0	6500	220	3000	10,2	1	90,7	0,94	9,6	1
	3,7				12,0		91,0	0,96	11,8	
	4,0				13,0		91,0	0,97	12,7	

### MOTOR PERFORMANCE DATA 220 V / 120 HZ

Motor model no.	P <sub>N</sub> [kW]	Thrust F [N]	U <sub>N</sub> [V]	n [min <sup>-1</sup> ]	I <sub>N</sub> [A]	I <sub>A</sub> /I <sub>N</sub> [A]	η [%]	cos phi	T <sub>N</sub> [Nm]	T <sub>A</sub> /T <sub>N</sub> *
234 051 ****	0,55	4000	220	3600	2,0	1	85,1	0,95	1,8	1
	0,75				2,6		85,6	0,97	2,4	
	1,1				3,8		83,5	0,99	3,5	
234 052 ****	1,1	4000	220	3600	4,1	1	86,4	0,94	3,5	1
	1,5				5,0		88,0	0,95	4,8	
	2,2				7,1		87,0	0,96	7,0	
234 053 ****	2,2	4000	220	3600	6,9	1	90,3	0,96	7,0	1
	3,0				9,4		90,2	0,97	9,6	
234 054 ****	3,0	6500	220	3600	9,7	1	90,7	0,94	9,6	1
	3,7				11,5		91,0	0,96	11,8	
	4,0				12,5		91,0	0,97	12,7	

### MOTOR PERFORMANCE DATA 380 V / 100 HZ

Motor model no.	P <sub>N</sub> [kW]	Thrust F [N]	U <sub>N</sub> [V]	n [min <sup>-1</sup> ]	I <sub>N</sub> [A]	I <sub>A</sub> /I <sub>N</sub> [A]	η [%]	cos phi	T <sub>N</sub> [Nm]	T <sub>A</sub> /T <sub>N</sub> *
234 062 ****	1,1	4000	380	3000	2,2	1	86,4	0,95	3,5	1
	1,5				2,8		88,0	0,96	4,8	
	2,2				4,0		87,0	0,97	7,0	
234 063 ****	2,2	4000	380	3000	4,0	1	89,6	0,95	7,0	1
	3,0				5,4		90,0	0,97	9,6	
234 064 ****	3,0	6500	380	3000	5,7	1	89,7	0,96	9,6	1
	3,7				6,7		90,2	0,97	11,8	
	4,0				7,3		90,2	0,98	12,7	
234 066 ****	4,0	6500	380	3000	7,3	1	90,7	0,95	12,7	1
	5,5				9,7		91,0	0,95	17,5	
	7,5				13,1		90,5	0,96	23,9	

Performance data are based on measurements with Franklin Electric original equipment.

\* Since this is an integrated system (motor plus electronics) these figures relate to VFD input.

# 6" 3~ ENCAPSULATED PERMANENT MAGNET MOTOR

## FEATURES & BENEFITS

- Double-flange NEMA mounting design
- Stainless steel splined shaft
- StatorShield™ - Franklin encapsulation system
- Factory filled with Franklin's FES91 motor fill solution
- Pressure-equalizing diaphragm, spring pre-loaded
- Field replaceable lead using Franklin's exclusive Water Bloc technology
- SandFighter™ sealing system with SiC/SiC mechanical seal and sand slinger
- High efficiency electrical design for low operation costs
- Drinking water approvals



## STANDARD SPECIFICATION

- Permanent magnet technology
- Up to 15 points (21 %) improved motor efficiency\*
- Investment payback of less than two years
- Ratings: 4 - 45 kW, 380 V (100 Hz)
- Thrust load: 15.5 kN: 4 - 22 kW, 27.5 kN: 26 - 45 kW
- Voltage Tolerance  $U_N$ :  $\pm 10$  %
- Nominal speed: 3000 rpm (100 Hz), 3600 rpm (120 Hz)
- Nominal ambient temperature: 30 °C ( $\leq 22$  kW: with 0.16 m/s cooling flow,  $\geq 26$  kW: with 0.5 m/s cooling flow)
- Protection IP68, Insulation class F
- Standard motors: WW (Water well), stator: 304SS, castings: CI Powder coated
- Frequency of starts: 20 starts/ hour (with min. 3 minutes resting time), equally distributed
- Vertical and horizontal operation, shaftend heightend
- Rotation counter clock wise facing shaft end (rotation reversible)
- All motors with factory installed leads

### OPTIONS

- Special Voltages
- Higher-graded material: 316SS
- 45 kN High Thrust version (Standard in 22 kW and 30 kW)
- Retrofittable PT 100 temperature sensor
- HighTemp drop cable



## 3~ DOL MODEL NUMBER 380 V / 100 HZ

$P_N$ [kW]	$U_N$ [V]	Thrust F [N]	Digit 1 - 6	Digit 7 - 10		
				WW**	304SS	Standard 316SS
				Single pack with pre-installed lead*	Single pack with pre-installed lead*	Single pack with pre-installed lead*
4 - 11	380	15.500	236 080	9561	1461	1561
13 - 22	380	15.500	236 084	9561	1461	1561
26 - 45	380	27.500	236 086	9561	1461	1561

\* with 4 m motor short lead

\*\* WW (Water well)- Stator 304SS / Castings - CI Powder coated (see material description in the catalog)

## 6" 3~ ENCAPSULATED PERMANENT MAGNET MOTOR

### 3~ MOTOR PERFORMANCE DATA 380 V / 100 HZ

Motor model no.	$P_N$ [kW]	Thrust F [N]	$U_N$ [V]	n [min <sup>-1</sup> ]	$I_N$ [A]	$I_A/I_N$	$\eta$ [%]	cos phi	$T_N$ [Nm]	$T_A/T_N$
236 080 xxxx	4	15500	380	3000	9.2	1	87.1	0.95	12.7	1
	5.5				11.0	1	89.8	0.95	17.5	1
	7.5				14.1	1	90.9	0.95	23.9	1
236 080 xxxx	9.3	15500	380	3000	17.2	1	91.2	0.95	29.6	1
	11				20.5	1	90.9	0.95	35.0	1
236 084 xxxx	13	15500	380	3000	25.3	1	91.4	0.95	41.4	1
	15				28.3	1	91.8	0.95	47.7	1
236 084 xxxx	18.5	15500	380	3000	34.1	1	92.1	0.95	58.9	1
236 084 xxxx	22	15500	380	3000	40.7	1	92.0	0.95	70.0	1
236 086 xxxx	26	27500	380	3000	51.2	1	92.3	0.95	82.8	1
	30				57.8	1	92.5	0.95	95.5	1
236 086 xxxx	37	27500	380	3000	71.3	1	92.1	0.95	117.8	1
236 086 xxxx	45	27500	380	3000	90.0	1	90.8	0.95	143.2	1

# 8" REWINDABLE PERMANENT MAGNET MOTOR

WATER WELL  
**WW**  
CI PC / 304SS

STAINLESS STEEL  
**316**

STAINLESS STEEL  
**904L**



## FEATURES & BENEFITS

- Double-flange NEMA mounting design
- High efficiency electrical design for low operation costs
- SandFighter™ sealing system with SiC/SiC mechanical seal and sand slinger
- Factory filled with Franklin's FES93 motor fill solution
- Standard motors WW (Water well) - Stator: 304SS / Castings - CI Powder coated
- Drinking water approvals
- Stainless steel splined shaft
- Liquid lubricated radial bearings and High capacity Kingsbury 45 kN type thrust bearing for 100 % maintenance free operation
- Pressure-equalizing diaphragm, spring pre-loaded

## STANDARD SPECIFICATION

- Ratings: 75 / 100 / 130 kW (100 Hz - 3000 rpm, 120 Hz - 3600 rpm)
- Max. storage temperature - 15 °C - +60 °C
- Standard motor with PE2/PA winding insulation
- Nominal ambient temperature: 30 °C with 0.5 m/s cooling flow
- System Supply Voltage: 400 V (100 Hz) / 460 V (120 Hz)
- Voltage Tolerance  $U_N$ : ±10 %
- Protection IP68
- Motor protection: DIN 61947-4-1
- Frequency of starts: 10 starts/ hour (with min. 3 minutes resting time), equally distributed
- DOL start
- Motor lead length: 6 m
- Motors installation orientation: Vertical / horizontal (shaft end heightened)
- Rotation counter clock wise facing shaft end (rotation reversible)

## OPTIONS

- Higher-graded material: 316SS, 904L
- Special Voltages
- Retrofittable PT 100 temperature sensor
- Special lead lengths



## MOTOR MODEL NUMBERS

$P_N$ [kW]	400V / 100 Hz WW * Motor model no.	400V / 100 Hz 316SS Motor model no.	400V / 100 Hz 904L Motormodel no.
75	263 014 5311	263 014 6311	263 014 7311
100	263 016 5311	263 016 6311	263 016 7311
130	263 018 5311	263 018 6311	263 018 7311

\* WW (Water well)- Stator 304SS / Castings - CI powder coated (see material description in the catalog)



# 8" REWINDABLE PERMANENT MAGNET MOTOR

## MOTOR PERFORMANCE DATA 400 V / 100 HZ

Motor model no.	$P_N$ [kW]	Thrust F [kN]	$n_N$ [min <sup>-1</sup> ]	$I_N$ [A]	$I_A/I_N^*$ [A]	$\eta$ [%]	cos phi	$T_N$ [Nm]	$T_A/T_N^*$ [Nm]
263 014 xxxx	45	45	3000	74	1	93.3	0.96	143	1
	55	45	3000	91	1	93.3	0.96	175	1
	67	45	3000	112	1	93.0	0.96	213	1
	75	45	3000	128	1	92.5	0.96	239	1
263 016 xxxx	75	45	3000	129	1	93.5	0.95	239	1
	83	45	3000	143	1	93.3	0.95	264	1
	93	45	3000	162	1	93.0	0.95	296	1
	100	45	3000	178	1	92.7	0.95	319	1
263 018 xxxx	75	45	3000	125	1	93.8	0.97	239	1
	93	45	3000	153	1	93.7	0.97	296	1
	110	45	3000	186	1	93.3	0.97	350	1
	130	45	3000	225	1	92.6	0.96	414	1

## MOTOR PERFORMANCE DATA 500 V / 100 HZ

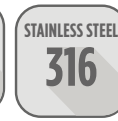
Motor model no.	$P_N$ [kW]	Thrust F [kN]	$n_N$ [min <sup>-1</sup> ]	$I_N$ [A]	$I_A/I_N^*$ [A]	$\eta$ [%]	cos phi	$T_N$ [Nm]	$T_A/T_N^*$ [Nm]
263 024 xxxx	45	45	3000	60	1	93.2	0.95	143	1
	55	45	3000	74	1	93.2	0.95	175	1
	67	45	3000	91	1	93.0	0.95	213	1
	75	45	3000	103	1	92.5	0.95	239	1
263 026 xxxx	75	45	3000	105	1	93.5	0.94	239	1
	83	45	3000	116	1	93.3	0.94	264	1
	93	45	3000	131	1	93.2	0.94	296	1
	100	45	3000	143	1	92.9	0.94	319	1
263 028 xxxx	75	45	3000	102	1	93.8	0.96	239	1
	93	45	3000	124	1	93.7	0.96	296	1
	110	45	3000	151	1	93.3	0.96	350	1
	130	45	3000	183	1	92.6	0.96	414	1

Performance data are based on measurements with Franklin Electric original equipment.  
 \*Since this is an integrated system (motor plus electronics) these figures relate to VFD input.

# 10" REWINDABLE PERMANENT MAGNET MOTOR

## FEATURES & BENEFITS

- Double-flange NEMA mounting design
- Factory filled with Franklin's FES93 motor fill solution
- Liquid lubricated radial bearings and High capacity Kingsbury 60 kN type thrust bearing for 100 % maintenance free operation
- Pressure-equalizing diaphragm, spring pre-loaded
- **Stainless Steel** keyed shaft
- SandFighter™ sealing system with SiC/SiC mechanical seal and sand slinger
- Standard motors WW (Water well) - Stator: 304SS / Castings - CI Powder coated
- High efficiency electrical design for low operation costs
- Drinking water approvals



## STANDARD SPECIFICATION

- Motor range: 150 - 250 kW (100 Hz - 3000 rpm), 173 - 287 kW (120 Hz - 3600 rpm)
- Max. storage temperature - 15 °C - +60 °C
- Standard motor with PE2/PA winding insulation
- Nominal ambient temperature: 30 °C with 0.5 m/s cooling flow
- System Supply Voltage: 400 V (100 Hz) / 460 V (120 Hz)
- Voltage Tolerance  $U_N$ :  $\pm 10$  %
- Protection IP68
- Motor protection: DIN 61947-4-1
- Frequency of starts: 10 starts/ hour (with min. 3 minutes resting time), equally distributed
- DOL start
- Motor lead length: 6 m
- Motors installation orientation: Vertical / horizontal (shaft end heightened), 250 kW motors may not be installed horizontally
- Rotation counter clock wise facing shaft end (rotation reversible)
- All motors with factory installed leads

## OPTIONS



- Special Voltages
- Higher-graded material: 316SS, 904L
- Retrofittable PT 100 temperature sensor
- Special lead lengths

## 3~ DOL MODEL NUMBERS 400 V / 100 Hz\*\*

$P_N$ [kW]	$U_N$ [V]	400V / 100 Hz WW * Motor model number	400V / 100 Hz 316SS Motor model number	400V / 100 Hz 904L Motor model number
150	400	264 025 5311	264 025 6311	264 025 7311
200	400	264 028 5311	264 028 6311	264 028 7311
250	400	264 029 5311	264 029 6311	264 029 7311

\* WW motor - brackets Cast Iron Powder coated

\*\* PM motors are to be operated by Variable frequency drive (VFD)

# 10" REWINDABLE PERMANENT MAGNET MOTOR

## MOTOR PERFORMANCE DATA 400 V / 100 HZ

motor model no.	$P_N$ [kW]	Thrust F [kN]	$n_N$ [min <sup>-1</sup> ]	$I_N$ [A]	$I_A/I_N^*$ [A]	$\eta$ [%]	cos phi	$T_N$ [Nm]	$T_A/T_N^*$ [Nm]
264 025 xxxx	110	60	3000	199,5	1	93,0	0,93	353	1
	130	60	3000	236,1	1	93,0	0,93	415	1
	150	60	3000	274,0	1	93,0	0,93	478	1
264 028 xxxx	150	60	3000	284	1	94,3	0,95	478	1
	185	60	3000	354	1	94,1	0,96	589	1
	200	60	3000	389	1	93,8	0,96	637	1
264 029 xxxx	200	60	3000	377	1	94,5	0,95	637	1
	220	60	3000	423	1	94,3	0,96	701	1
	250	60	3000	497	1	93,8	0,96	796	1

## MOTOR PERFORMANCE DATA 460 V / 120 HZ

motor model no.	$P_N$ [kW]	$P_{max.}$ [kW]	Thrust F [kN]	$n_N$ [min <sup>-1</sup> ]	$I_{MAX}$ [A]	$I_A/I_{MAX}^*$ [A]	$\eta$ [%]	cos phi	$T_N$ [Nm]	$T_A/T_N^*$ [Nm]
264 025 xxxx	110	127	60	3600	199,5	1	93,0	0,93	353	1
	130	150	60	3600	236,1	1	93,0	0,93	415	1
	150	173	60	3600	274,0	1	93,0	0,93	478	1
264 028 xxxx	150	173	60	3600	284	1	94,3	0,95	478	1
	185	213	60	3600	354	1	94,1	0,96	589	1
	200	230	60	3600	389	1	93,6	0,96	637	1
264 029 xxxx	200	230	60	3600	377	1	94,5	0,95	637	1
	220	253	60	3600	423	1	94,3	0,96	701	1
	250	287	60	3600	497	1	93,6	0,96	796	1

Performance data are based on measurements with Franklin Electric original equipment.  
 \*Since this is an integrated system (motor plus electronics) these figures relate to VFD input.

# VARIABLE FREQUENCY DRIVES

Franklin Electric Variable Frequency Drives are designed to work in a wide range of submersible and surface pumping applications. They are offering great flexibility, state of the art motor protection, energy savings and enhanced pump speed control while remaining easy to use.

The innovative and reliable design allows multi-purpose use across many industries and key applications such as residential constant water pressure, municipal water supply, agriculture and irrigation, dewatering and mining.



**DrivE-Tech MINI**

IP66 wall mounted /  
Pump mounted drive



**DrivE-Tech COMPACT**

IP66 wall mounted/  
Pump mounted drive



**DrivE-Tech**

IP65/54 wall mounted/  
Pump mounted drive



**Cerus X-Drive**

IP20/00 /  
Panel mounted drive

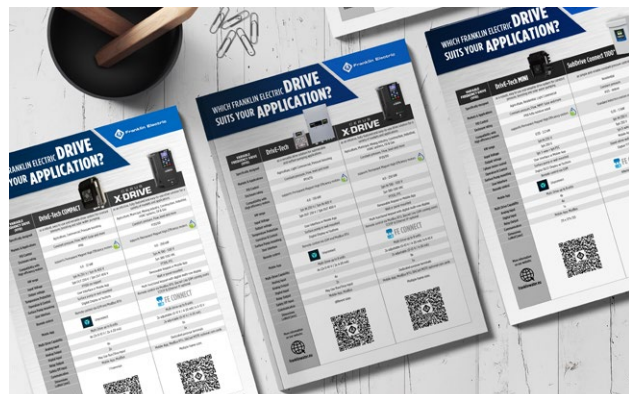
**DrivE-Tech Series**  
0.55 - 130 kW

**CERUS X-Drive**  
4.0 - 250 kW

# BROCHURES / CATALOGS



Download our drive catalog for further information on [franklinwater.eu](http://franklinwater.eu).



Download our comparison sheets from our website [franklinwater.eu](http://franklinwater.eu).

# VARIABLE FREQUENCY DRIVES

## FEATURES & BENEFITS

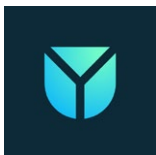
The Drive-Tech and Cerus X-Drive are variable frequency drives designed to control and protect three phase asynchronous and permanent magnet synchronous motors in residential, industrial, municipal, and agricultural applications. They are easy to integrate into existing infrastructure or to be used as stand-alone drive modules for individual pumping applications.

- ✓ Enhanced pump speed control
- ✓ State of the art motor and pump protection features
- ✓ Operation of induction type asynchronous motors and permanent magnet synchronous motors
- ✓ Wide performance range up to 250 kW
- ✓ Compact, innovative and reliable design
- ✓ Bluetooth connectivity and Mobile App control
- ✓ Remote Support, commissioning, and support
- ✓ CE approved

## EASY INSTALLATION & SUPPORT

- ✓ Intuitive start-up experience with application-specific parameter pre-sets
- ✓ Setup/commissioning through user-friendly Mobile App or keypad
- ✓ Copy-paste parameter setup between multiple drives through keypad data storage or Mobile App

Unyconnect App for Drive-Tech Series:



Google Playstore



Apple App Store

FE CONNECT App for X-Drive Series:



Google Playstore



Apple App Store

# VARIABLE FREQUENCY DRIVES

## MODEL NUMBER CERUS X-DRIVE

drive model no.	drive type	IP	V <sub>IN</sub> [V]	I <sub>OUT</sub> [A]	dimensions				weight [kg]	Frame size
					a	b	c	d		
CXD-013A-4V-K	X-Drive 13A	IP	3x380-500	13	130	250		170	3	A
CXD-018A-4V-K	X-Drive 18A	20	3x380-500	18	130	250		170	3	A
CXD-024A-4V-K	X-Drive 24A	20	3x380-500	24	190	320		190	5.5	B
CXD-032A-4V-K	X-Drive 32A	20	3x380-500	32	190	320		190	5.5	B
CXD-038A-4V-K	X-Drive 38A	20	3x380-500	38	190	320		190	5.5	B
CXD-045A-4V-K	X-Drive 45A	20	3x380-500	45	250	400		210	10	C
CXD-060A-4V-K	X-Drive 60A	20	3x380-500	60	250	400		210	10	C
CXD-073A-4V-K	X-Drive 73A	20	3x380-500	73	250	400		210	10	C
CXD-091A-4V-K	X-Drive 91A	20	3x380-500	91	280	500	614	255	27	D0
CXD-110A-4V-K	X-Drive 110A	20	3x380-500	110	280	500	614	255	27	D0
CXD-150A-4V-K	X-Drive 150A	20	3x380-500	150	330	550	688	275	40	D
CXD-180A-4V-K	X-Drive 180A	20	3x380-500	180	330	550	688	275	40	D
CXD-220A-4V-K	X-Drive 220A	20	3x380-500	220	370	589	716	300	65	E
CXD-260A-4V-K	X-Drive 260A	20	3x380-500	260	370	589	716	300	65	E
CXD-310A-4V-K	X-Drive 310A	20	3x380-500	310	420	800	940	300	87	F
CXD-370A-4V-K	X-Drive 370A	20	3x380-500	370	420	800	940	300	87	F
CXD-460A-4V-K	X-Drive 460A	20	3x380-500	460	500	1000	1240	397	135	G
CXD-530A-4V-K	X-Drive 530A	20	3x380-500	530	500	1000	1240	397	135	G

\* Optional input filter on request (X-Drive 13A - 73A)

## MODEL NUMBER DRIVE-TECH MINI

Drive model no.	drive type	IP	V <sub>IN</sub> [V]	I <sub>OUT</sub> [A]	dimensions [mm]	weight [kg]
002149005	DT MINI 2.005 M/T	66	1x220-240	3	150 x 211 x 130	2.5
002149112	DT MINI 2.011 M/T	66	1x220-240	5	150 x 211 x 130	2.5
002149152	DT MINI 2.015 M/T	66	1x220-240	7.5	150 x 211 x 130	2.5
314000170	DT MINI 2.022 M/T	66	1x220-240	8.5	150 x 211 x 130	2.5
314000162	DT MINI 4.011 T/T	66	3x380-460	4	150 x 211 x 130	2.5
314000163	DT MINI 4.022 T/T	66	3x380-460	6	150 x 211 x 130	2.5
314000164	DT MINI 4.040 T/T	66	3x380-460	10.5	150 x 211 x 130	2.5




drive model no.	drive type	IP	V <sub>IN</sub> [V]	VDC <sub>IN</sub> [V]	I <sub>OUT</sub> [A]	dimensions [mm]	weight [kg]
314000165	DT MINI Solar 2.005 M/T	66	1x220-240	400	3	150 x 211 x 130	2.5
314000166	DT MINI Solar 2.011 M/T	66	1x220-240	400	5	150 x 211 x 130	2.5
314000167	DT MINI Solar 2.015 M/T	66	1x220-240	400	7.5	150 x 211 x 130	2.5

# VARIABLE FREQUENCY DRIVES

## MODEL NUMBER DRIVE-TECH COMPACT

drive model no.	drive model no. PT100	drive type	IP	V <sub>IN</sub> [V]	I <sub>OUT</sub> [A]	dimensions [mm]	weight [kg]
002152090	002152092	DT COMPACT 2.022 M/T	66	1x220-240	9.5	248 x 337 x 190	10
002152120	002152122	DT COMPACT 2.030 M/T	66	1x220-240	12.5	248 x 337 x 190	10
002152180	002152182	DT COMPACT 2.040 M/T	66	1x220-240	18.5	248 x 337 x 190	10
002150140	002150142	DT COMPACT 4.055 T/T	66	3x380-460	14	248 x 337 x 190	10
002150180	002150182	DT COMPACT 4.075 T/T	66	3x380-460	18	248 x 337 x 190	10
002150250	002150252	DT COMPACT 4.110 T/T	66	3x380-460	25	248 x 337 x 190	10
002150300	002150302	DT COMPACT 4.150 T/T	66	3x380-460	30	248 x 337 x 190	10
002150380	002150382	DT COMPACT 4.185 T/T	66	3x380-460	38	248 x 337 x 190	10
002150440	002150442	DT COMPACT 4.220 T/T	66	3x380-460	44	248 x 337 x 190	10

## MODEL NUMBER DRIVE-TECH COMPACT SOLAR MP



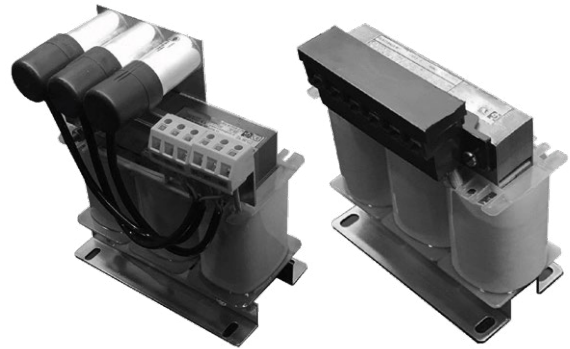
drive model no.	drive type	IP	V <sub>IN</sub> [V]	I <sub>OUT</sub> [A]	dimensions [mm]	weight [kg]
002150141	DT COMPACT Solar 4.055 T/T	66	3x380-460	14	248 x 337 x 190	10
002150181	DT COMPACT Solar 4.075 T/T	66	3x380-460	18	248 x 337 x 190	10
002150251	DT COMPACT Solar 4.110 T/T	66	3x380-460	25	248 x 337 x 190	10
002150301	DT COMPACT Solar 4.150 T/T	66	3x380-460	30	248 x 337 x 190	10
002150381	DT COMPACT Solar 4.185 T/T	66	3x380-460	38	248 x 337 x 190	10
002150441	DT COMPACT Solar 4.220 T/T	66	3x380-460	44	248 x 337 x 190	10

## MODEL NUMBER DRIVE-TECH

drive model no.	drive type	IP	V <sub>IN</sub> [V]	I <sub>OUT</sub> [A]	dimensions [mm]	weight [kg]	Frame size
002149115	DRIVE-TECH 2.015 M/T 7A - M/M 9A	65	1x220-240	7	180 x 180 x 205	5	1
002149131	DRIVE-TECH 2.030 M/T 11A - M/M9A	65	1x220-240	11	180 x 180 x 205	5	1
002149185	DRIVE-TECH 4.185 T/T 38A	54	3x380-460	38	410 x 680 x 260	40	3
002149220	DRIVE-TECH 4.220 T/T 48A	54	3x380-460	48	410 x 680 x 260	40	3
002149300	DRIVE-TECH 4.300 T/T 65A	54	3x380-460	65	410 x 680 x 260	40	3
002149370	DRIVE-TECH 4.370 T/T 75A	54	3x380-460	75	410 x 680 x 260	40	3
002149450	DRIVE-TECH 4.450 T/T 85A	54	3x380-460	85	410 x 680 x 260	40	3
002149550	DRIVE-TECH 4.550 T/T 118A	54	3x380-460	118	490 x 880 x 380	80	4
002149750	DRIVE-TECH 4.750 T/T 158A	54	3x380-460	158	490 x 880 x 380	80	4
002149900	DRIVE-TECH 4.900 T/T 185A	54	3x380-460	185	490 x 880 x 380	80	4
002151100	DRIVE-TECH 4.1100 T/T 215A	54	3x380-460	215	490 x 880 x 380	80	4
002151320	DRIVE-TECH 4.1320 T/T 268A	54	3x380-460	268	490 x 880 x 380	80	4

## OUTPUT FILTER

- A VFD output filter or load reactor acts as an additional impedance between VFD and motor. It protects the motor winding and reduces the voltage stress by decreasing the voltage rise time ( $dV/dt$ ) and tapering the output voltage waveform of the VFD. Optimizing the VFD output voltage waveform into a more suitable profile prevents the risk of high voltage reflexion caused by long motor cable length.
- Required when using 3x400 V AC induction and permanent magnet motors with VFD
- Use  $dV/dt$  output filter for motor cable lengths of 4 - 120 m.
- Use Sinus output filter for motor cable lengths greater than 120 m.
- The size of a  $dV/dt$  or Sinus filter must be selected according to the nominal motor current [A]



Sinus output filter

$dV/dt$  output filter

## FEATURES & BENEFITS

- For use with 3x400 V AC induction and permanent magnet motors
- Protects motor winding against high voltage peaks and increases lifetime
- Reduces motor noise
- Improves EMC and reduces emissions

## DV/DT OUTPUT FILTER

### MODEL NO. DV/DT OUTPUT FILTER IP00

filter model no.	Type	IP	V <sub>NOMINAL</sub> [V]	I <sub>NOMINAL</sub> [A]	fs [kHz]	Dimensions a x b x c [mm]	Mounting	weight [kg]
002352414	dV/dt	00	380 - 460	14	4	120 x 67 x 115	wall / floor	2.7
002352432	dV/dt	00	380 - 460	32	4	140 x 75 x 150	wall / floor	3.5
002352490	dV/dt	00	380 - 460	90	4	180 x 120 x 200	wall / floor	8
314005102	dV/dt	00	380 - 460	38	4	155 x 96 x 197	wall / floor	5
314005137	dV/dt	00	380 - 460	105	4	190 x 116 x 238	wall / floor	12
314005130	dV/dt	00	380 - 460	140	4	240 x 139 x 335	wall / floor	14
314005119	dV/dt	00	380 - 460	205	4	240 x 149 x 335	wall / floor	19
002352533	dV/dt	00	380 - 460	330	4	240 x 162 x 208	wall / floor	32
002352550	dV/dt	00	380 - 460	500	4	240 x 171 x 268	floor	35
314005167	dV/dt	00	380 - 460	650	4	300 x 260 x 347	floor	50

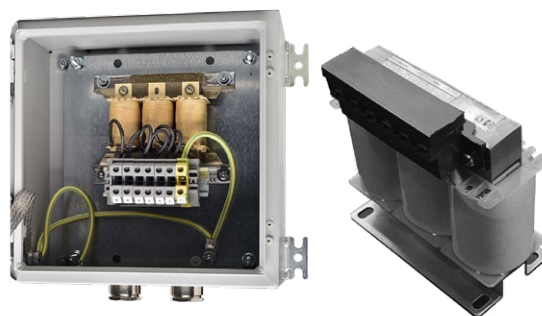
\* Mountable filter (optional filter box available)

### MODEL NO. DV/DT OUTPUT FILTER IP54

filter model no.	type	IP	V <sub>NOMINAL</sub> [V]	I <sub>NOMINAL</sub> [A]	fs [kHz]	Dimensions a x b x c [mm]	Mounting	weight [kg]
*002352414	dV/dt	54	380 - 460	14	4	164 x 196 x 141	wall	4.2
*002352432	dV/dt	54	380 - 460	32	4	164 x 196 x 141	wall	5
*002352490	dV/dt	54	380 - 460	45	4	264 x 339 x 211	wall	11.5
314005112	dV/dt	54	380 - 460	61	4	325 x 354 x 227	wall	24
314005118	dV/dt	54	380 - 460	87	4	405 x 654 x 227	wall	37
314005124	dV/dt	54	380 - 460	140	4	550 x 560 x 550	floor	52
314005125	dV/dt	54	380 - 460	205	4	550 x 560 x 550	floor	62
314005126	dV/dt	54	380 - 460	310	4	550 x 560 x 550	floor	81


\* Mountable filter (optional filter box available)

filter type	[A]	part no.	IP23		IP54	
			Box Size		Box Size	
			1	2	1	2
			002150FB0	002150FB1	002150FB2	002150FB3
dV/dt	14	002352414	✓	✓	✓	✓
	32	002352432	✓	✓	50% Amp. derating	✓
	90	002352490	x	✓	x	50% Amp. derating



dv/dt output filter

### PLUG-IN OUTPUT FILTER CARD

drive type	Kit PN	
<b>Drive-Tech COMPACT</b> DTC plug-In dV/dt filter card 32A DTC 4.055 - 4.150	002150FC0	

# SINUS OUTPUT FILTER

## MODEL NO. SINUS OUTPUT FILTER IP00

filter model no.	type	IP	V <sub>NOMINAL</sub> [V]	I <sub>NOMINAL</sub> [A]	fs [kHz]	Dimensions a x b x c [mm]	Mounting	weight [kg]
002347013	Sinus	00	380 - 460	14	4	180 x 105 x 210	wall / floor	10
002347011	Sinus	00	380 - 460	32	4	240 x 115 x 280	wall / floor	17.5
002347012	Sinus	00	380 - 460	115	4	300 x 150 x 285	floor	42
314005121	Sinus	00	380 - 460	140	4	360 x 311 x 413	floor	87
314005122	Sinus	00	380 - 460	205	4	420 x 335 x 460	floor	105
314005171	Sinus	00	380 - 460	261	4	420 x 335 x 460	floor	125
314005123	Sinus	00	380 - 460	310	2.5	420 x 365 x 460	floor	140
314005168	Sinus	00	380 - 460	460	2.5	480 x 460 x 523	floor	190
314005169	Sinus	00	380 - 460	590	2.5	480 x 490 x 523	floor	225

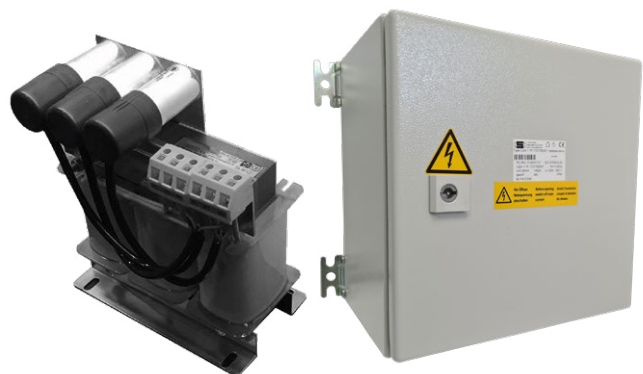
\* Mountable filter (optional filter box available)

## MODEL NO. SINUS OUTPUT FILTER IP54

filter model no.	type	IP	V <sub>NOMINAL</sub> [V]	I <sub>NOMINAL</sub> [A]	fs [kHz]	Dimensions a x b x c [mm]	Mounting	weight [kg]
*002347013	Sinus	54	380 - 460	14	4	264 x 339 x 211	wall	13.5
*002347011	Sinus	54	380 - 460	32	4	264 x 339 x 211	wall	21
314005115	Sinus	54	380 - 460	38	4	770 x 610 x 620	floor	76
314005139	Sinus	54	380 - 460	46	4	770 x 610 x 620	floor	90
314005116	Sinus	54	380 - 460	72	4	770 x 610 x 620	floor	112
002347020	Sinus	54	380 - 460	180	4	600 x 400 x 800	floor	167
314005131	Sinus	54	380 - 460	170	4	770 x 610 x 620	floor	166
314005128	Sinus	54	380 - 460	205	4	1150 x 920 x 890	floor	303
314005170	Sinus	54	380 - 460	261	2.5	1150 x 920 x 890	floor	434
314005129	Sinus	54	380 - 460	310	2.5	1150 x 920 x 890	floor	429

\* Mountable filter (optional filter box available)

filter type	[A]	part no.	IP23		IP54	
			Box Size		Box Size	
			1	2	1	2
Sinus	14	002347013	002150FB0	002150FB1	002150FB2	002150FB3
	32	002347011	x	✓	x	✓
	-	-	-	-	-	-




Sinus output filter

# OUTPUT FILTER ACCESSORIES

## FILTER HOUSING

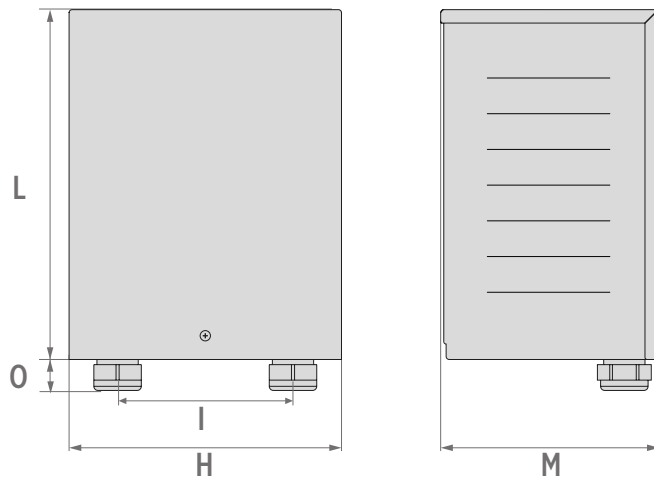
- Optional output filter boxes can be used in combination with dedicated output filter models to increase the IP enclosure rating and protect the output filter when installed outside of a control panel.
- Please refer to the below table to select the correct output filter box. Due to the thermal characteristics and heat dissipation of an output filter it is required to apply a 50% output filter current [A] derating when IP 54 rated filter boxes are used.
- Example: Installing the 32A dV/dt output filter model (002352432) in the IP54 rated filter box (box size 1) will limit the max. output filter current to 50% = 16A max. output filter current.

filter type	[A]	part no.	IP23		IP54	
			Box Size		Box Size	
			1	2	1	2
			002150FB0	002150FB1	002150FB2	002150FB3
dV/dt	14	002352414	✓	✓	✓	✓
	32	002352432	✓	✓	50% Amp. derating	✓
	90	002352490	x	✓	x	50% Amp. derating
Sinus	14	002347013	x	✓	x	✓
	32	002347011	x	✓	x	✓
	-	-	-	-	-	-






## DIMENSIONS

Box Size	part no.	Dimensions [mm]				
		L	H	M	O	I
1	002150FB0	196	164	141	29	100
1	002150FB2	196	164	141	29	100
2	002150FB1	339	264	211	30	170
2	002150FB3	339	264	211	30	170


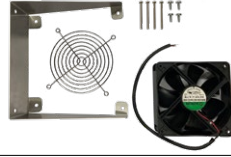
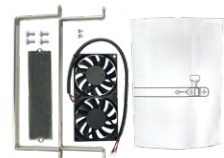


# VARIABLE FREQUENCY DRIVE ACCESSORIES


## PRESSURE TRANSDUCER

Transducer part no.	Type	Range [Bar]	Signal [mA]	Material	
002 851 075	Pressure sensor without cable	0 - 10	4 - 20	304SS	
002 851 080	Pressure sensor without cable	0 - 16	4 - 20	304SS	
002 851 085	Pressure sensor without cable	0 - 25	4 - 20	304SS	
002 852 211	Pressure sensor with 2 m shielded cable	0 - 16	4 - 20	304SS	
002 851 088	Pressure sensor with 2 m shielded cable	0 - 16	4 - 20	316SS	

## MOTOR AND WALL MOUNTING KITS- DRIVE-TECH


Type	Kit PN	
Motor Mounting Kit for DrivE-Tech 2.015, 2.030, 4.022, 4.040 <ul style="list-style-type: none"> <li>▪ Screws and connectors</li> <li>▪ Motor mounting frames</li> </ul>	14211110	
Wall installation kit for 2.015, 2.030, 4.022, 4.040 <ul style="list-style-type: none"> <li>▪ Fan with protective grid</li> <li>▪ Screws</li> <li>▪ Wall mounting plate</li> </ul>	14211121	
Wall installation kit for DT 4.055 - 4.150 <ul style="list-style-type: none"> <li>▪ Fan 2x</li> <li>▪ Screws</li> <li>▪ Wall mounting frames</li> <li>▪ cover plate</li> </ul>	14211030	

## DrivE-Tech COMPACT

Type	Kit PN	
Wall installation kit for DT Compact 2.022 - 4.221 <ul style="list-style-type: none"> <li>▪ Screws and connectors</li> <li>▪ Wall mounting plate</li> </ul>	002150WK0	

## QUICK SETUP ACCESSORY KIT


### DrivE-Tech MINI

part no.	Type	
002150APO	Wall mounting plate 1.50 m SCHUKO supply cable FASTON cable connectors	

# VARIABLE FREQUENCY DRIVE ACCESSORIES



## PLUG-IN OUTPUT FILTER CARD

### DrivE-Tech COMPACT

Kit part no.	Type	
002150FC0	DTC plug-In dV/dt filter card 32A DTC 4.055 - 4.150	





## DRIVE-TECH ACCESSORIES

### DrivE-Tech

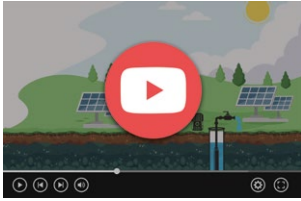
part no.	Type	
308 216 110	KIT IOT WIFI DRIVE-TECH <ul style="list-style-type: none"> <li>Remote control / monitoring via WIFI</li> <li>32 GB SD storage card</li> <li>High-performance antenna</li> </ul>	
308 206 110	KIT IOT GSM DRIVE-TECH <ul style="list-style-type: none"> <li>Remote control / monitoring vis GSM</li> <li>32 GB SD storage card</li> <li>High-performance antenna</li> <li>SIM card <u>not</u> included</li> </ul>	

## X-DRIVE ZUBEHÖR

### Cerus X-Drive

part no.	Type	
10000004840	Bluetooth communications card for X-Drive	
CXD-KPD	X-Drive replacement keypad	
CMC-EIP01	Modbus TCP / Ethernet Card	
MKC-KPPK	X-Drive control panel door mounting kit	

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