



10" REWINDABLE PERMANENT MAGNET (PM) MOTOR

FEATURES & BENEFITS

- The permanent magnet synchronous motor provides superior efficiency, excellent energy savings and strong reliability.
- Instead of a short-circuit induction type rotor, the high efficiency motor contains a permanent magnet rotor design with buried magnets and magnetic core segments.
- The permanent magnet motor design eliminates electrical rotor losses resulting in lower motor amps, improved partial load behavior and reduced temperature heat rise.
- The PM motor has a lower weight, a reduced length and requires lower Amps to run at the same pump load.
- For operation with Variable frequency drive (VFD)
- Double-flange NEMA mounting design
- Stainless steel splined shaft
- Factory filled with FES Franklin's non-toxic water soluble fill solution
- Hydrodynamic liquid lubricated radial bearings and High capacity Kingsbury type thrust bearing for 100 % maintenance free operation
- Pressure-equalizing diaphragm, spring pre-loaded
- SandFighter™ sealing system with SIC mechanical seal and sand slinger
- Standard motor: WW- Water well design (stator: 304SS / castings: CI powder coated)
- Drinking water approvals

STANDARD SPECIFICATION

- Ratings
150 kW - 200 kW - 250 kW (100 Hz - 3000 rpm)
173 kW - 230 kW - 290 kW (120 Hz - 3600 rpm)
- Max. storage temperature: -15 °C - +60 °C
- Nominal ambient temperature: 30 °C (with 0.5 m/s cooling flow)
- Standard voltage: 400 V (100 Hz), 460 V (120 Hz)
- Voltage tolerance U_N : ±10 %
- Standard motor with PE2/PA winding insulation
- protection IP68
- Protection requirements: DIN/EN 61947-4-1
- Frequency of starts: 10 starts/ hour (with min. 3 minutes resting time), equally distributed
- DOL-start
- All motors with factory installed leads
- Motor lead length: 6 m
- Vertical and horizontal operation, shaftend heightend
- 250 kW motors may not be installed in horizontal position (if required please contact Franklin Electric).
- Rotation counter clock wise facing shaft end (rotation reversible for 3 phase motors)

OPTIONS

- Higher-graded material: 316SS, 904L
- Special voltages
- Retrofittable PT 100 temperature sensor
- Special lead lengths
- High Efficiency system solution



High Efficiency System



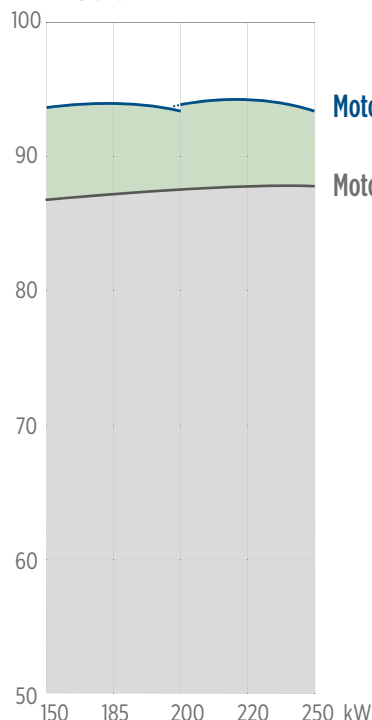
Variable Frequency drives
& Accessories



10" REWINDABLE PERMANENT MAGNET (PM) MOTOR

10REW PM MOTOR - 3-PHASE - EFFICIENCY CURVE AT 3000 RPM

efficiency [%] Motor η 400 V / 100 Hz [%] = f (P2 [kW])



Motor efficiency of synchronous motors

Motor efficiency of equivalent asynchronous motors

WATER WELL
WW
CI PC / 304SS

STAINLESS STEEL
316

STAINLESS STEEL
904L



Permanent Magnet Technology

Instead of a short-circuit induction type rotor, the high efficiency motor contains a permanent magnet rotor design with buried magnets and magnetic core segments.

High efficiency electrical design for low operation costs

The permanent magnet synchronous motor provides superior efficiency, excellent energy savings and strong reliability.

No electrical rotor losses

The permanent magnet motor design eliminates electrical rotor losses resulting in lower motor amps, improved partial load behavior and reduced temperature heat rise.

Reduced motor length and weight

The PM motor has a lower weight, a reduced length and requires lower Amps to run at the same pump load.



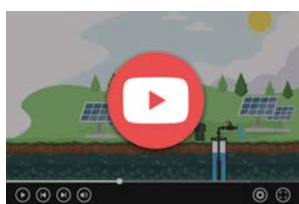
HIGH EFFICIENCY



permanent magnet technology



Energy savings with High Efficiency System



Explainer video High Efficiency System

10" REWINDABLE PERMANENT MAGNET (PM) MOTOR

10REW PM MOTOR - 3-PHASE - MOTOR MODEL NO. | DOL | 100 HZ | 400V

P _N [kW]	U _N [V]	WW	316SS	904L
150	400	264 025 5311	264 025 6311	264 025 6311
200	400	264 028 5311	264 028 6311	264 028 7311
250	400	264 029 5311	264 029 6311	264 029 7311

WW - Water well design (stator: 304SS | castings: CI powder coated)

PM motors must be operated with a variable frequency drive (VFD).

10REW PM MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 400V | 100 HZ

motor model no.	P _N [kW]	Thrust F [kN]	n _N [min ⁻¹]	I _N [A]	I _A /I _N [A]	η [%]	cos phi	T _N [Nm]	T _A /T _N [*] [Nm]
264 025 xxxx	110	60	3000	199.5	1	93	0.93	353	1
	130	60	3000	236.1	1	93	0.93	415	1
	150	60	3000	274	1	93	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

10REW PM MOTOR - 3-PHASE - MOTOR PERFORMANCE DATA | 460V | 120 HZ

motor model no.	P _{MAX} [kW]	n _N [min ⁻¹]	Thrust F [kN]	IMAX [A]	η [%]	cos phi	T _N [Nm]	T _N /T _A [*] [Nm]	T _N /T _A [*] [Nm]	T _N /T _A [*] [Nm]
264 025 xxxx	110	127	60	3600	199.5	1	93	0.93	353	1
	130	150	60	3600	236.1	1	93	0.93	415	1
	150	173	60	3600	274	1	93	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 and electronics), these specifications refer to the VFD input.

10REW PM MOTOR - 3-PHASE - WINDING RESISTANCE DATA | 100 HZ | 400-500V | PE2/PA

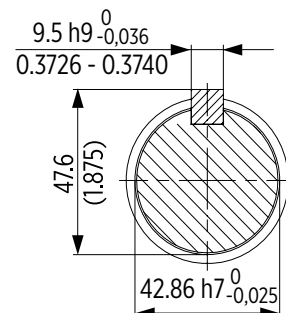
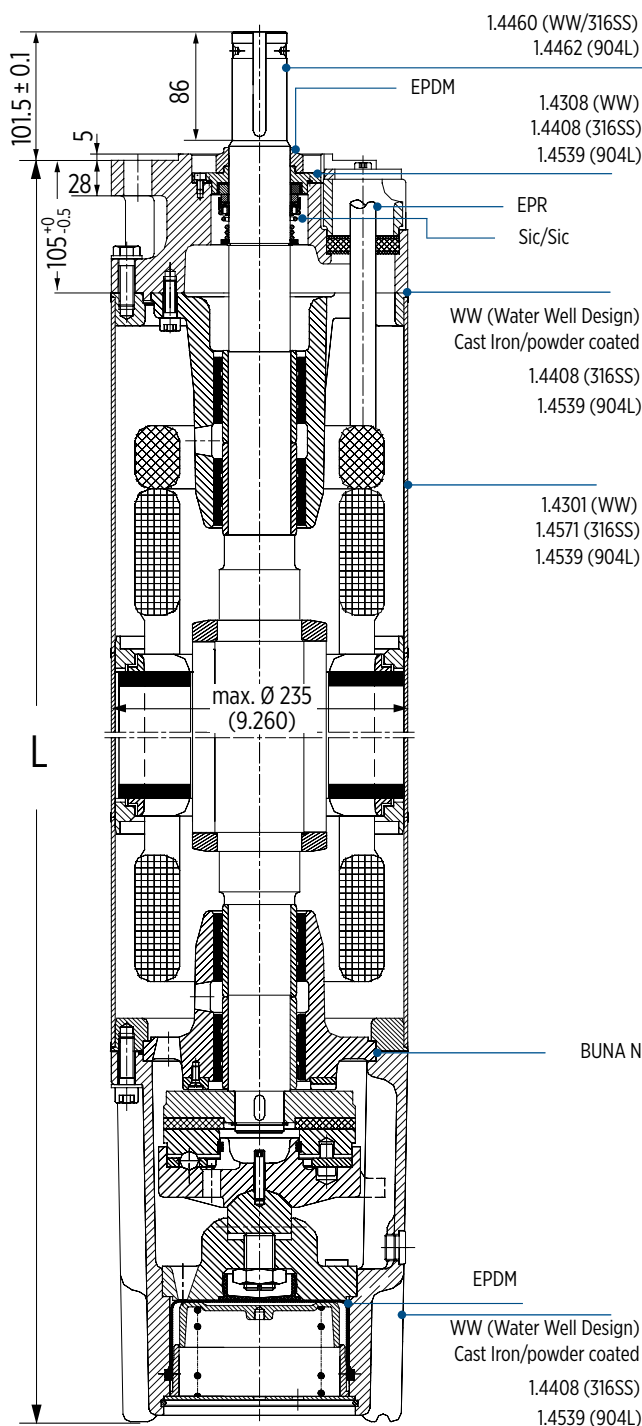
P _N [kW]	U _N [V]	model no. winding kit	turns per coil	wire diameter [mm]	type of isolation	group connection	total wire length [m]	resistance coil [Ω]	resistance DOL (U1-V1) [Ω]
150	400	327 6** ***			PE2/PA	Parallel Star	0	0	0
200	400	327 640 999	7 - 7	2,4 / 3,7 / 3,9	PE2/PA	Parallel Star	780	0,0305	0,0305
250	400	327 641 999	6 - 6	3,0 / 4,5 / 4,8	PE2/PA	Parallel Star	560	0,0265	0,0265

10REW PM MOTOR - 3-PHASE - INSULATION RESISTANCE DATA | 20 °C | 500 VDC

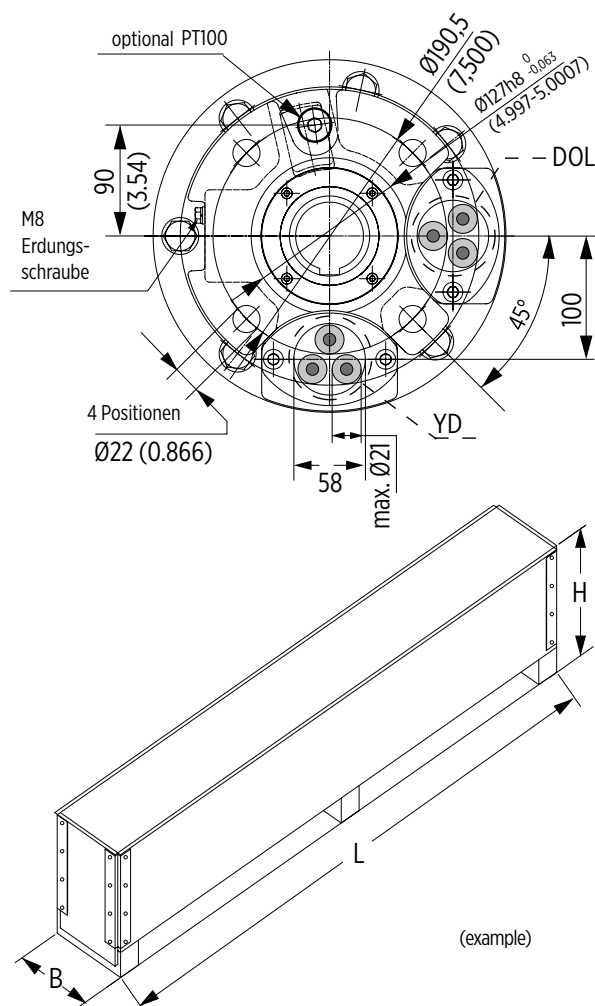
insulation resistance (20 °C 500 VDC)		
new motor without drop cable	400 >	MΩ
used motor without drop cable	20 >	MΩ
new motor with drop cable	4 >	MΩ
used motor with drop cable	1	MΩ

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10REW PM MOTOR - 3-PHASE - DIMENSIONS AND WEIGHTS | WW | 316SS | 904L



Upper end bell



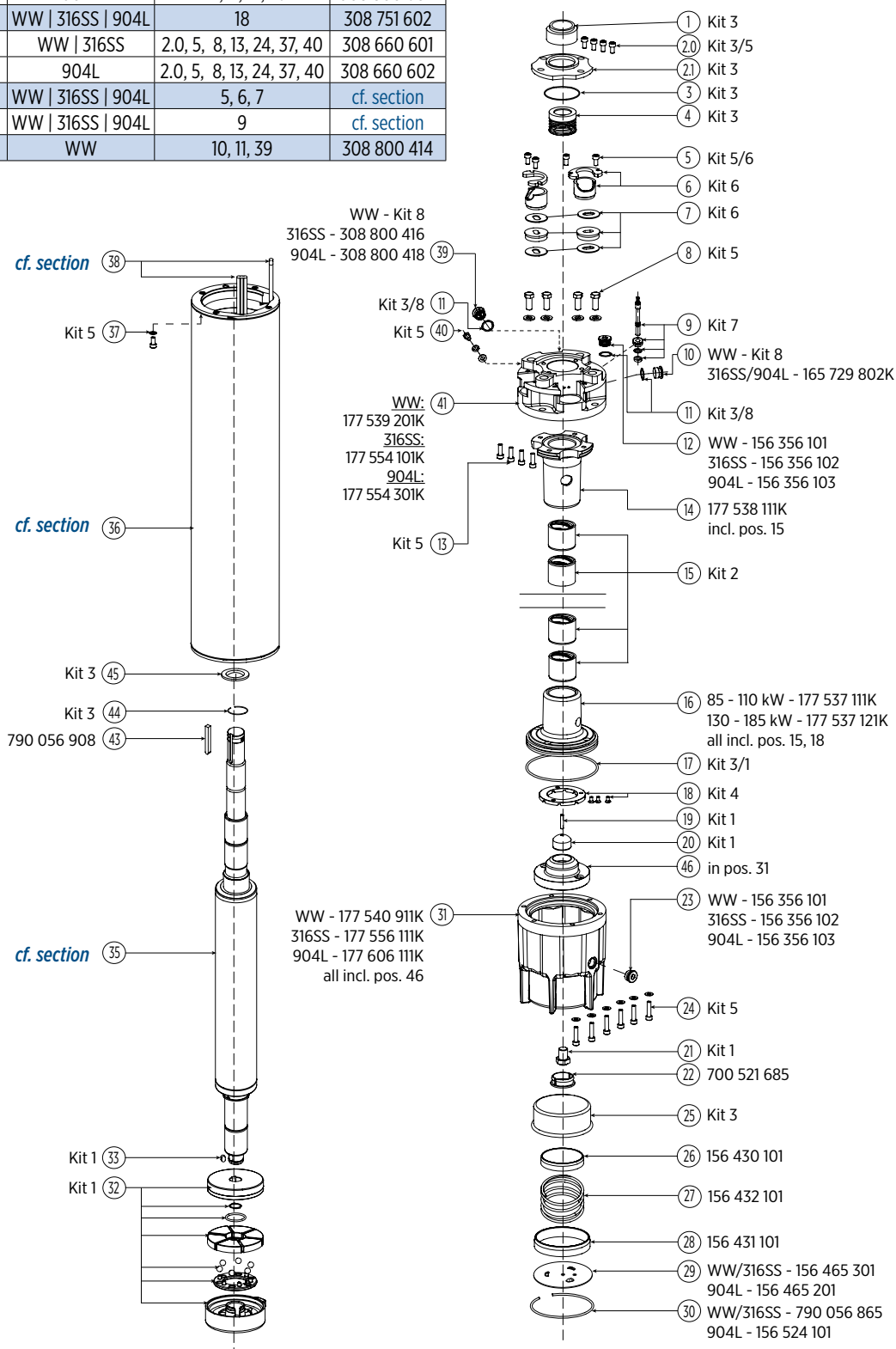
HIGH EFFICIENCY

P _N [kW]	motor length L [mm]	weight [kg]		motor shipping size [mm]		
		motor [kg]	incl. motor box [kg]	B	H	L
150	1549	311	361	341	514	2246
200	1659	331	381			
250	1769	350	400			

10" REWINDABLE PERMANENT MAGNET (PM) MOTOR

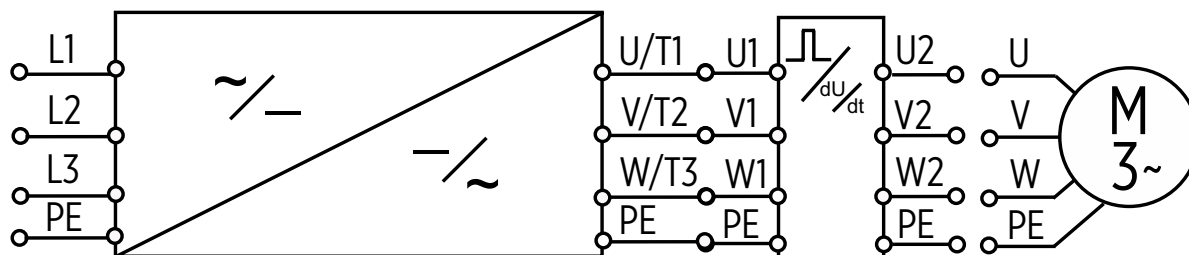
10REW PM MOTOR - 3-PHASE - MOTOR SPARE PARTS - KITS | WW | 316SS | 904L

Kit	description	material	included positions	part no.
Kit 1	thrust bearing kit	WW 316SS 904L	17, 20, 21, 32, 33	308 750 601
Kit 2	radial bearing kit	WW 316SS 904L	15	308 751 601
Kit 3	seal kit	WW 316SS	1-4, 11, 17, 25	308 800 603
	seal kit	904L	1-4, 11, 17, 25	308 800 604
Kit 4	up-thrust bearing kit	WW 316SS 904L	18	308 751 602
Kit 5	screw kit	WW 316SS	2.0, 5, 8, 13, 24, 37, 40	308 660 601
	screw kit	904L	2.0, 5, 8, 13, 24, 37, 40	308 660 602
Kit 6	lead seal kit	WW 316SS 904L	5, 6, 7	cf. section
Kit 7	PT100 kit	WW 316SS 904L	9	cf. section
Kit 8	valve kit	WW	10, 11, 39	308 800 414



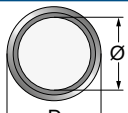
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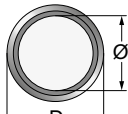
10REW PM MOTOR - 3-PHASE - CONNECTIONS



U = black (BK) | V = grey (GY) | W = brown (BN) | PE = yellow/green (YE/GN)

10REW PM MOTOR - 3-PHASE - MOTOR LEADS | CONNECTIONS | DOL

lead	P _N [kW]	U _N [V]	Ø [mm²]	D [mm]	length L [m]	qty.	model no. lead set (3 single wire lead)	model no. lead seal kit
	all ratings	400	3 x 1X70	20,7	6	1	308 711 100	308 660 740

ground lead (optional)	Ø [mm²]	D [mm]	length L [m]	qty.	lead model no.
	1G35	15,3	6	1	308 056 060
	1G70	20,3	6	1	308057 060

lead opening seal kit	qty.	model no.
WW 316SS	1	308 660 715
904L	1	308 660 730

Cables are designed for submerged operation. For air operation, please consult Franklin Electric.

10REW PM MOTOR - 3-PHASE - STATOR AND ROTOR | WW | 316SS

P _N [kW]	U _N [V]	stator WW 316SS incl. winding and 6 m motor lead	Rotor WW 316SS
150	400	327 *** **	1000000****K
200	400	327 640 931	10000005599K
250	400	327 641 931	10000005857K

YOUTUBE VIDEOS AND TUTORIALS

- 10REW PM motor - 3-phase - repair instructions (model no.10000006792)



Tutorial 8-10 REW PT100 installation (sensor design starting 08-2025)