SCOT

MOTORPUMPTM — 2900 RPM 50 HERTZ, 2.5 X 2.5 X 6.5 FLG

54FB

MOTOR DIMENSIONS

		NEMA	JM F	RAME	3 PHA	SE 2900	RPM			
HP	Туре	Frame	D	Е	F	0	AB	BG	L	МН
5	ODP	JM184	4.50	3.75	2.25	8.56	6.70	6.25	6.15	0.41
7.5	ODP	JM213	5.25	4.25	2.75	10.14	7.97	7.25	6.60	0.41
10	ODP	JM215	5.25	4.25	3.50	10.14	7.97	8.00	6.64	0.41
5	TEFC	JM184	4.50	3.75	2.25	9.34	7.57	5.00	7.76	0.41
7.5/10	TEFC	JM215	5.25	4.25	3.50	10.37	8.19	6.77	9.16	0.41

Dimensions are the next larger 60Hz motor derated for 50HZ operation.

ALL DIMENSIONS IN INCHES.

DRAWING REPRESENTS APPROXIMATE PUMP DIMENSIONS, AUTOCAD DRAWING TO SCALE AVAILABLE FROM FACTORY.



A20

1.0 S.G. **TOTAL HEAD** PERFORMANCE CURVE 2900 RPM 70°F PSI FEET NUMBER 40.000.245B MTRS PUMP SIZE: 3.0 x 2.5 x 6.5 2.5 x 2.5 x 6.5 IMP. TYPE: **ENCLOSED** 50 Hz MAX. DIA.: 6.50 78-180 IMPELLER NO .: C1157 MAX. SPHERE: 7/16 PEIcl: 0.99 6-20-72 69-160 STD. IMPELLERS 61 | 140 | 6.50FOR ODP MOTORS H.P. DIA. 60 70 52 | 120 | 6.25 76 5.0 5.50 76 6.00 7.5 6.00 43-100-30-10.0 6.50 70 5.50 80 35-5.00 26 78 18-60 78 1/20 10/1/2 15 P S H 12-17-40 NPSH REQ. 10 R 6-9-20 Ē 5 0 U.S. GALLONS 0 50 100 150 200 250 300 PER MINUTE **CUBIC METERS** 11 22 34 45 56 68 PER HOUR

54FBJM 81.001.749

50 Hertz Pump & Motor Data

A 3-phase 50 Hertz Motorpump[™] can be obtained in several ways. The most common options are listed below:

- 1. Most 60 Hz pumps available from Scot Pump can be operated on a 3-phase 50 Hz 190/380V power. However, when operated on 50 Hz power, the speed is reduced by approximately 20%, and a significant reduction in performance is realized. The charts below indicate these reductions in performance.
- 2. Pumps will produce the performance indicated in the performance curves when operated on 50 Hz power. The motors for these selections can be obtained through *derated 60 Hz motors* and *wound 50 Hz motors* (see below).

Contact factory for 1 Phase applications.

Derated 60 Hz Motors

The most common practice and readily available method of obtaining a 50 Hz motor is by using the next larger 60 Hz motor and derating it to the desired horsepower on 50 Hz. We will require the country the motor is being exported to, frequency in hertz and specific voltage to ensure that a nameplate with applicable efficiency and country markings (if required) is supplied. In utilizing this practice, service factors may be derated to 1.0. Please contact the factory for approval of the rating for your specific application.

Wound 50 Hz Motors

Specially wound 50 Hz motors are available. These motors are not normally a stock item and require an extended lead time.

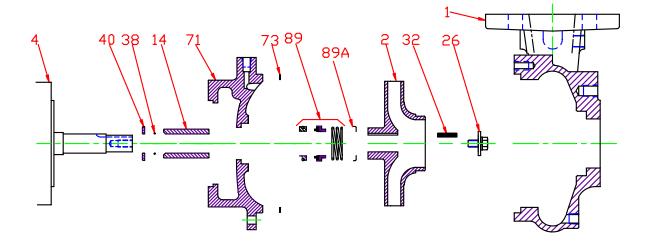
The impeller and horsepower combination sized (taking the reduction in speed into consideration) may not be suitable for operation on 60 Hz power. The increase in speed, performance and load may overload the system and the electric motors. *Pumps sized for 50 Hz operation SHOULD NOT be tested on 60 Hz*.

60 Hz Pump on 50 Hz Power					
No Impeller Change					
50 Hz	60 Hz	Factor			
GPM =	GPM x	0.829			
Head = Head x 0.687					
BHP = HP x 0.569					

To Size 60 Hz Pump Using 50 Hz Data,					
Obtain 60 Hz Data As Follows:					
60 Hz	50 Hz	Factor			
GPM =	GPM x	1.2			
Head =	Head x	1.45			
BHP =	HP =	GPM x Head x SG of 3960 x Eff			

Change of Speed (RPM)				
	How Varies:	Examples		
GPM	Directly	Double RPM = $(2)(RPM) = (2)(GPM)$ Triple RPM = $(3)(RPM) = (3)(GPM)$		
Head	Square	Double RPM = $(2)(RPM) = (2)^2 = (2)(2) = (4)(Head)$ Triple RPM = $(3)(RPM) = (3)^2 = (3)(3) = (9)(Head)$		
BHP	Cube	Double RPM = $(2)(RPM) = (2)^3 = (2)(2)(2) = (8)(BHP)$ Triple RPM = $(3)(RPM) = (3)^3 = (3)(3)(3) = (27)(BHP)$		
Change of Impeller Diameter (Dia.)				
		· , ,		
	Chan How Varies:	Examples		
GPM		· , ,		
GPM Head	How Varies:	Examples Double Dia. = (2)(Dia.) = (2)(GPM)		

Pump 54FB • Bronze • JM Frame • 2900 RPM



1	KEY NO.	PART NAME	PUMP NO. 54FB				
BRONZE	1	CASE, BRONZE, 2.5 x 2.5 FLG	130.000.220X				
## MOTOR, JM140/180	2	IMPELLER, 7/8" KEYED, ENCLOSED, SPECIFY DIAMETER:					
MOTOR, JM210 See 60Hz Chart 14*	2	BRONZE	131.000.825				
MOTOR, JM210 See 60Hz Chart	4	MOTOR, JM140/180	See 60Hz Chart				
14* SHAFT SLEEVE, STAINLESS 110.000.192	4	MOTOR, JM210	See 60Hz Chart				
26* IMPELLER RETAINER, STAINLESS 118.000.163A 32* KEY, STAINLESS 102.000.102 38* O-RING, SHAFT, BUNA 116.000.117 O-RING, SHAFT, VITON 116.000.105 40* FLINGER, STAINLESS 104.000.165 71 ADAPTER, BRONZE - JM140/180 132.000.228X ADAPTER, BRONZE - JM210 132.000.223X 73* GASKET, CASE, FIBER 116.000.157 1½" SEALS: BN-CARB/CM 101.000.168 VN-CARB/CM 101.000.191 89* VN-CARB/SIL 101.000.175 VN-SIL/SIL 101.000.175 EPDM-CARB/SIL 101.000.175 EPDM-SIL/SIL 101.000.204 89A* SEAL RETAINER, STAINLESS 104.000.174 **REPAIR KITS: BN-CARB/CM SEAL 118.000.3444 VN-CARB/CM SEAL 118.000.344F VN-CARB/SIL SEAL 118.000.344F EPDM-CARB/SIL SEAL 118.000.344C **VN-CARB/SIL SEAL 118.000.344F EPDM-CARB/SIL SEAL 118.000.344F EPDM-CARB/SIL SEAL 118.000.344C	1./*	SHAFT SLEEVE, BRONZE	110.000.178				
32* KEY, STAINLESS 102.000.102 38* O-RING, SHAFT, BUNA 116.000.117 O-RING, SHAFT, VITON 116.000.105 40* FLINGER, STAINLESS 104.000.165 132.000.228X ADAPTER, BRONZE - JM140/180 132.000.228X ADAPTER, BRONZE - JM210 132.000.223X 73* GASKET, CASE, FIBER 116.000.157 1½" SEALS: BN-CARB/CM	14		110.000.192				
38* O-RING, SHAFT, BUNA	26*	IMPELLER RETAINER, STAINLESS	118.000.163A				
O-RING, SHAFT, VITON	32*	KEY, STAINLESS	102.000.102				
O-RING, SHAFT, VITON	30*	O-RING, SHAFT, BUNA	116.000.117				
71 ADAPTER, BRONZE - JM140/180 132.000.228X ADAPTER, BRONZE - JM210 132.000.223X 73* GASKET, CASE, FIBER 116.000.157 1½" SEALS: BN-CARB/CM 101.000.168 VN-CARB/SIL 101.000.175 VN-SIL/SIL 101.000.204 EPDM-CARB/SIL 101.000.204 EPDM-SIL/SIL 101.000.204A 89A* SEAL RETAINER, STAINLESS 104.000.174 ® REPAIR KITS: BN-CARB/CM SEAL 118.000.344 VN-CARB/CM SEAL 118.000.344K VN-CARB/SIL SEAL 118.000.344F EPDM-CARB/SIL SEAL 118.000.344F EPDM-CARB/SIL SEAL 118.000.344F EPDM-CARB/SIL SEAL 118.000.344F	30						
71 ADAPTER, BRONZE - JM210 132.000.223X 73* GASKET, CASE, FIBER 116.000.157 1½" SEALS: BN-CARB/CM 101.000.168 VN-CARB/SIL 101.000.175 VN-SIL/SIL 101.000.204 EPDM-CARB/SIL 101.000.204 EPDM-SIL/SIL 101.000.204 EPDM-SIL/SIL 101.000.204A 89A* SEAL RETAINER, STAINLESS 104.000.174 **O REPAIR KITS: BN-CARB/CM SEAL 118.000.344 VN-CARB/CM SEAL 118.000.344 VN-CARB/CM SEAL 118.000.344K VN-CARB/SIL SEAL 118.000.344F EPDM-CARB/SIL SEAL 118.000.344F EPDM-CARB/SIL SEAL 118.000.344F EPDM-CARB/SIL SEAL 118.000.344C	40*	FLINGER, STAINLESS	104.000.165				
73* GASKET, CASE, FIBER 116.000.157 1½" SEALS: BN-CARB/CM 101.000.168 VN-CARB/SIL 101.000.175 VN-SIL/SIL 101.000.204 EPDM-CARB/SIL 101.000.204 EPDM-SIL/SIL 101.000.204 EPDM-SIL/SIL 101.000.204 89A* SEAL RETAINER, STAINLESS 104.000.174 **REPAIR KITS: BN-CARB/CM SEAL 118.000.344 VN-CARB/CM SEAL 118.000.344K VN-CARB/SIL SEAL 118.000.344F EPDM-CARB/SIL SEAL 118.000.344F EPDM-CARB/SIL SEAL 118.000.344F EPDM-CARB/SIL SEAL 118.000.344F EPDM-CARB/SIL SEAL 118.000.344C	71	· · · · · · · · · · · · · · · · · · ·	132.000.228X				
1½" SEALS:	7.1	ADAPTER, BRONZE - JM210	132.000.223X				
BN-CARB/CM	73*	GASKET, CASE, FIBER	116.000.157				
VN-CARB/CM VN-CARB/SIL VN-SIL/SIL EPDM-CARB/SIL EPDM-SIL/SIL EPDM-SIL/SIL 89A* SEAL RETAINER, STAINLESS REPAIR KITS: BN-CARB/CM SEAL VN-CARB/CM SEAL VN-CARB/CM SEAL VN-CARB/CM SEAL VN-CARB/SIL SEAL VN-CARB/SIL SEAL VN-CARB/SIL SEAL VN-CARB/SIL SEAL VN-SIL/SIL SEAL VN-SIL/SIL SEAL VN-CARB/SIL SEAL VN-CARB/SIL SEAL VN-SIL/SIL SEAL VN-CARB/SIL SEAL VN-CARB/SIL SEAL VN-CARB/SIL SEAL VN-CARB/SIL SEAL VN-SIL/SIL SEAL VN-CARB/SIL SEAL VN-CARB/SIL SEAL VN-CARB/SIL SEAL VN-CARB/SIL SEAL VN-CARB/SIL SEAL VN-SIL/SIL SEAL VN-CARB/SIL SEAL							
89*		BN-CARB/CM	101.000.168				
VN-SIL/SIL EPDM-CARB/SIL EPDM-SIL/SIL 101.000.204A 89A* SEAL RETAINER, STAINLESS 104.000.174 PREPAIR KITS: BN-CARB/CM SEAL VN-CARB/CM SEAL VN-CARB/CM SEAL VN-CARB/CM SEAL VN-CARB/SIL SEAL VN-CARB/SIL SEAL VN-SIL/SIL SEAL VN-SIL/SIL SEAL VN-CARB/SIL SEAL VN-SIL/SIL SEAL VN-CARB/SIL SEAL		VN-CARB/CM	101.000.191				
EPDM-CARB/SIL 101.000.175B EPDM-SIL/SIL 101.000.204A 89A* SEAL RETAINER, STAINLESS 104.000.174 © REPAIR KITS: BN-CARB/CM SEAL 118.000.344 VN-CARB/CM SEAL 118.000.344A VN-CARB/CM SEAL 118.000.344K VN-CARB/SIL SEAL 118.000.344B VN-SIL/SIL SEAL 118.000.344F EPDM-CARB/SIL SEAL 118.000.344C	89*	VN-CARB/SIL	101.000.175				
EPDM-SIL/SIL 101.000.204A 89A* SEAL RETAINER, STAINLESS 104.000.174 © REPAIR KITS: BN-CARB/CM SEAL 118.000.344 VN-CARB/CM SEAL 118.000.344A VN-CARB/CM SEAL 118.000.344K VN-CARB/SIL SEAL 118.000.344B VN-SIL/SIL SEAL 118.000.344F EPDM-CARB/SIL SEAL 118.000.344C		VN-SIL/SIL					
89A* SEAL RETAINER, STAINLESS 104.000.174 © REPAIR KITS: BN-CARB/CM SEAL 118.000.344 VN-CARB/CM SEAL 118.000.344A VN-CARB/CM SEAL 118.000.344K VN-CARB/SIL SEAL 118.000.344B VN-SIL/SIL SEAL 118.000.344F EPDM-CARB/SIL SEAL 118.000.344C		EPDM-CARB/SIL	101.000.175B				
OREPAIR KITS: BN-CARB/CM SEAL 118.000.344 VN-CARB/CM SEAL (S) 118.000.344A VN-CARB/CM SEAL 118.000.344K VN-CARB/SIL SEAL 118.000.344B VN-SIL/SIL SEAL (S) 118.000.344F EPDM-CARB/SIL SEAL 118.000.344C		EPDM-SIL/SIL	101.000.204A				
BN-CARB/CM SEAL 118.000.344 VN-CARB/CM SEAL (S) 118.000.344A VN-CARB/CM SEAL 118.000.344K VN-CARB/SIL SEAL 118.000.344B VN-SIL/SIL SEAL (S) 118.000.344F EPDM-CARB/SIL SEAL 118.000.344C	89A*	SEAL RETAINER, STAINLESS	104.000.174				
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VN-CARB/SIL SEAL 118.000.344B VN-SIL/SIL SEAL 118.000.344F EPDM-CARB/SIL SEAL 118.000.344C		VN-CARB/CM SEAL (S)	118.000.344A				
VN-SIL/SIL SEAL (S) 118.000.344F EPDM-CARB/SIL SEAL 118.000.344C			118.000.344K				
EPDM-CARB/SIL SEAL 118.000.344C							
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		EPDM-CARB/SIL SEAL	118.000.344C				
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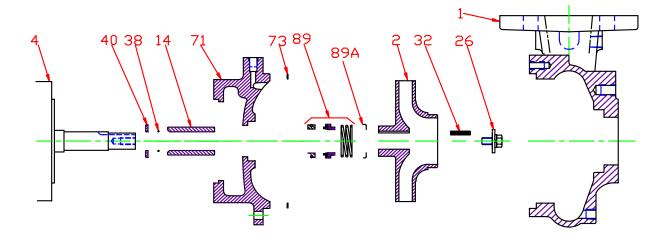
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^{*} DENOTES COMPONENTS INCLUDED IN REPAIR KIT.

O ALL REPAIR KITS INCLUDE THE BRONZE SHAFT SLEEVE EXCEPT THE (S) INDICATED, WHICH IS STAINLESS WITH VITON SHAFT O-RING.

Pump 54FB • Bronze • JM Frame • 2900 RPM



CONSTRUCTION OPTIONS				
KEY	PART NAME	ALL BRONZE		
1	Case	Bronze		
2	Impeller	Bronze		
14	Shaft Sleeve	Bronze		
26	Impeller Retaining Assy	Stainless		
32	Key	Stainless		
38	Shaft O-Ring	BUNA		
40	Flinger	Stainless		
71	Adapter	Bronze		
73	Gasket, Case	Fiber		
89	Mechanical Seal, Type 21 BN-CM	Standard		
89A	Seal Spring Retainer	Stainless		
Н	Plug, Drain	Brass		

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