Scot Pump
A WILO COMPANY

MOTORPUMP™ — 2900 RPM
50 HERTZ, 2.50 X 1.50 FLG

D324JM14-18 DRAWING DEPICTS 14-18JM 7.5HP TEFC MOTOR

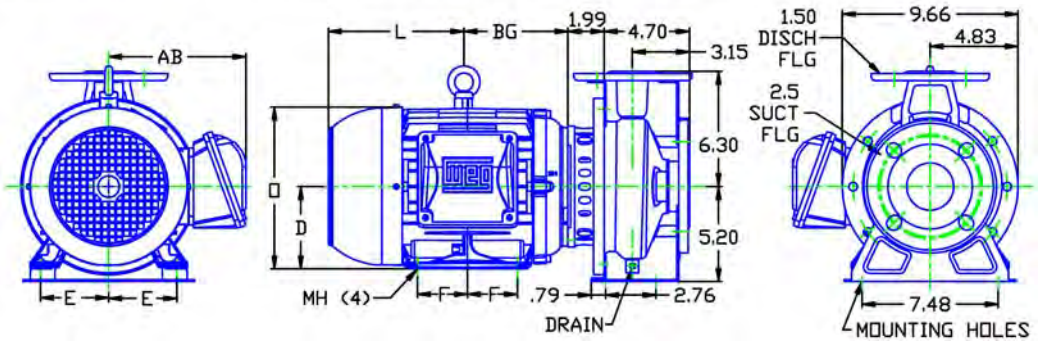
324
JM

MOTOR DIMENSIONS

NEMA PREMIUM EFFICIENT JM FRAME 3 PHASE 2900 RPM

HP	Type	Frame	D	E	F	O	AB	BG	L	MH
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
5	TEFC	JM184	4.50	3.75	2.75	8.85	7.57	5.51	7.64	0.41
7.5	TEFC	JM215	5.25	4.25	3.50	10.37	8.19	6.77	9.16	0.41

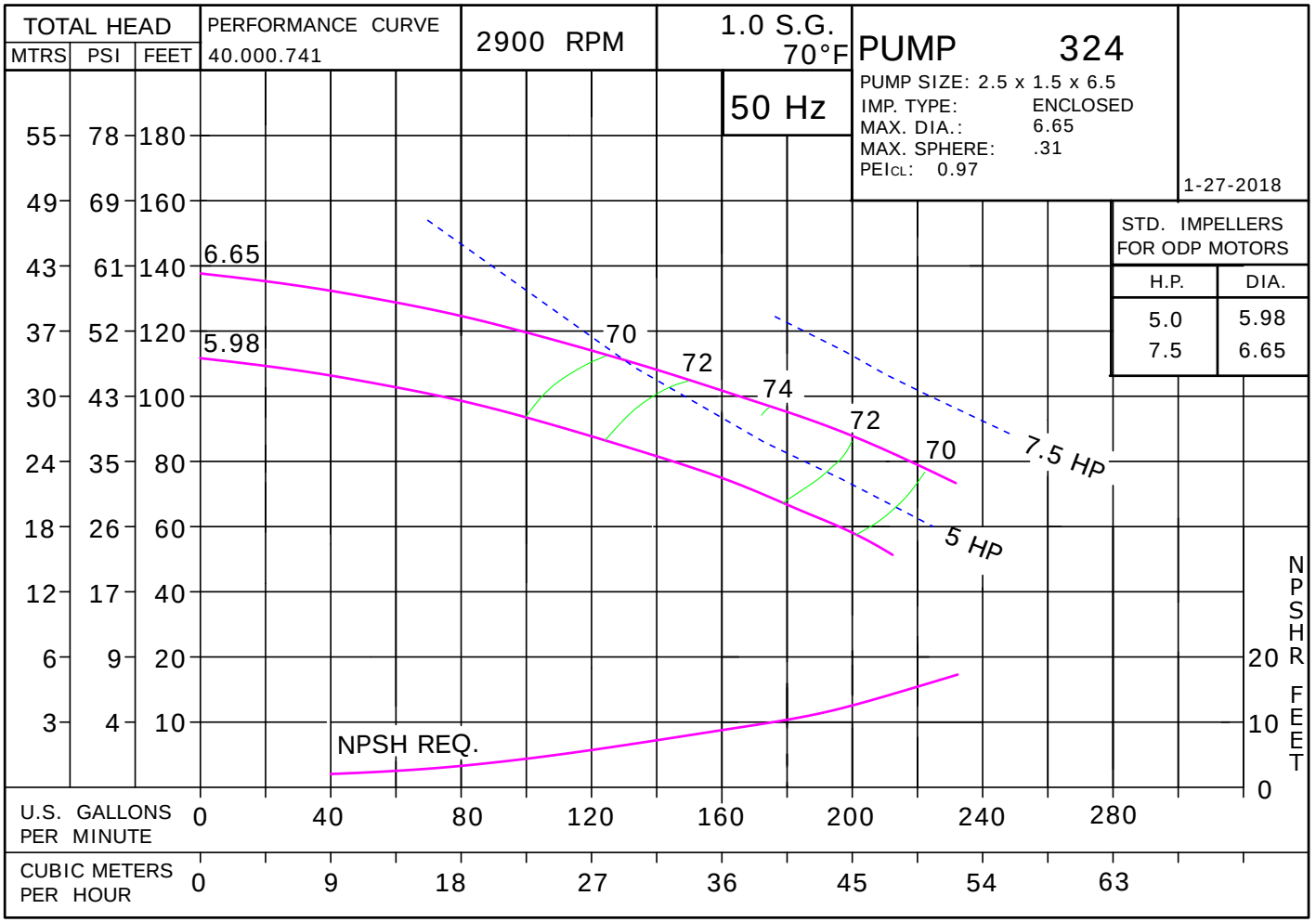
Dimensions are the next larger 60Hz motor derated for 50Hz operation.



ALL DIMENSIONS IN INCHES.

DRAWING REPRESENTS APPROXIMATE PUMP DIMENSIONS. ATOCAD DRAWING TO SCALE AVAILABLE FROM FACTORY.

PUMP TO BE INSTALLED ONLY IN THE HORIZONTAL POSITION AS SHOWN.



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3242900JM
81.002.226 M19

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 =	$\frac{\text{GPM x Head x SG of}}{\text{3960 x Eff}}$

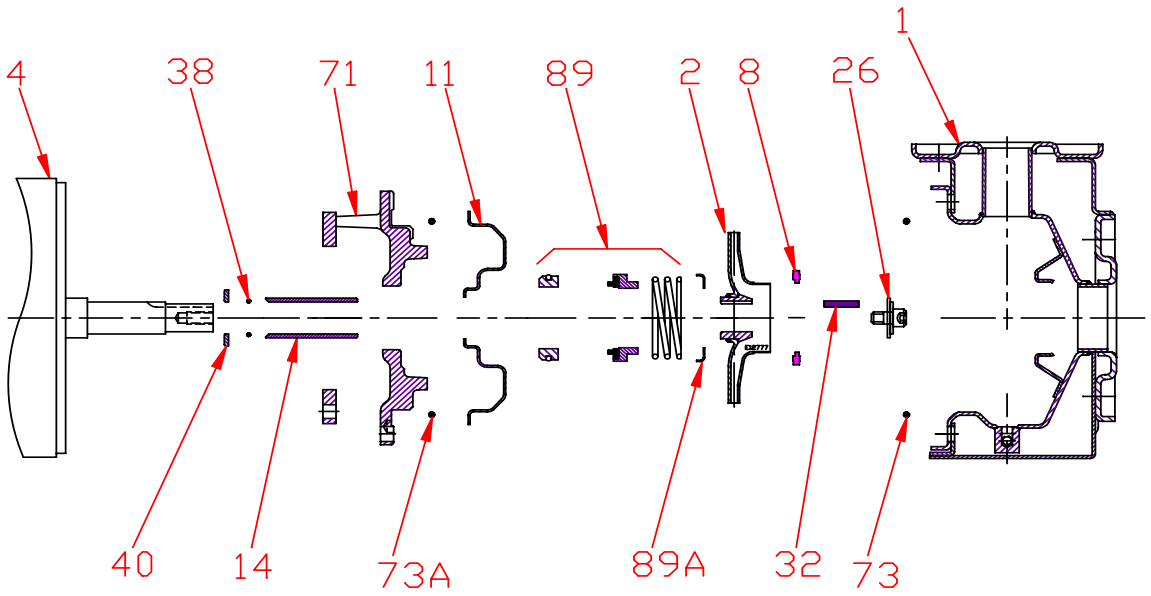
Change of Speed (RPM)

	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.)

	How Varies:	*Examples*
GPM	Directly	Double Dia. = (2)(Dia.) = (2)(GPM) Triple Dia. = (3)(Dia.) = (3)(RPM)
Head	Square	Double Dia. = (2)(Dia.) = $(2)^2$ = (2)(2) = (4)(Head) Triple Dia. = (3)(Dia.) = $(3)^2$ = (3)(3) = (9)(Head)
BHP	Cube	Double Dia. = (2)(Dia.) = $(2)^3$ = (2)(2) (2) = (8)(BHP) Triple Dia. = (3)(Dia.) = $(3)^3$ = (3)(3)(3) = (27)(BHP)

Pump 324 • 304SS • JM Frame • 2900 RPM



KEY NO.	PART NAME	PUMP 324
1	CASE, 304SS, 2.5 x 1.50, FLG	137.002.959
2	IMPELLER, STAINLESS, ENCLOSED, 7/8" KEYED:	
	5.98" DIA	137.002.933
	6.65" DIA	137.002.934
4	MOTOR, JM140/180	See 60hz Chart
8	RING	137.002.929
11	COVER, 304SS	137.002.911
14*	SHAFT SLEEVE, 304SS	137.002.912
26*	IMPELLER RETAINER, 304SS	118.000.111A
32*	KEY, 303SS	102.000.102
38*	O-RING, SHAFT, BUNA	116.000.117
40*	FLINGER, 304SS	104.000.165
71	ADAPTER, IRON, JM140/180	137.002.910
	ADAPTER, IRON, JM210	137.002.935
73*	GASKET, CASE, BUNA	137.002.913
73A*	GASKET, COVER, BUNA	137.003.012
89*	1-1/4" SEALS	
	TYPE 21, BN-CARB/CM	137.002.949
	TYPE 21, VN-CARB/CM	137.002.950
	TYPE 21, VN-CARB/SIL	137.002.952
	TYPE 21, VN-SIL/SIL	137.002.953
	TYPE 21, EPDM-CARB/SIL	137.002.951
89A	SEAL RETAINER, STAINLESS	137.002.948
--	REPAIR KITS:	
	BN-CARB/CM SEAL	118.000.674
	VN-CARB/CM SEAL	118.000.674A
	VN-CARB/SIL SEAL	118.000.674D
	VN-SIL/SIL SEAL	118.000.674B
	EPDM-CARB/SIL SEAL	118.000.674C
* DENOTES COMPONENTS INCLUDED IN REPAIR KIT.		

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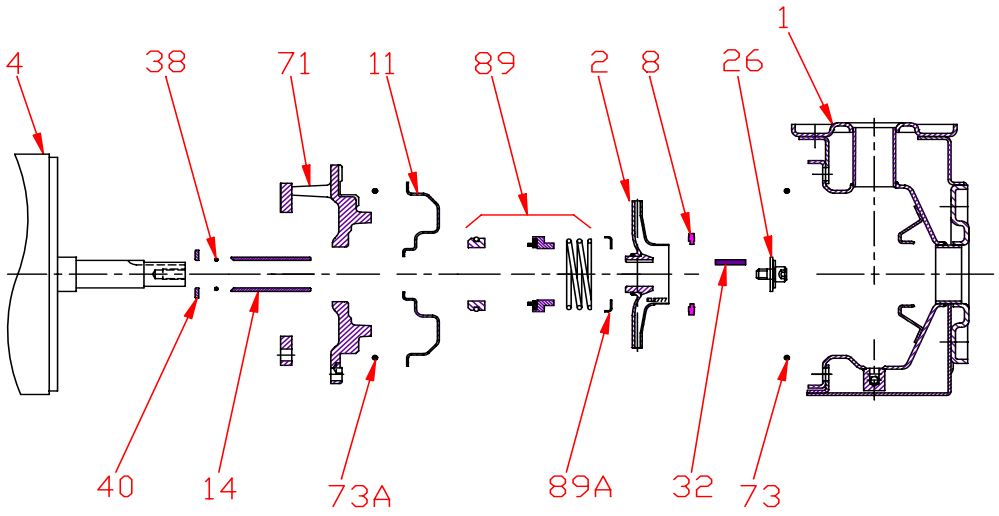

CONSTRUCTION OPTIONS		
KEY	**PART NAME**	**STANDARD FITTED**
1	Case	304SS
2	Impeller	304SS
8	Impeller Ring	POLYPHENYLENE OXIDE 20% GLASS
11	Cover	304SS
14	Sleeve	304SS
26	Retainer Assembly	304SS
32	Key	303SS
38	O-ring, Shaft	BUNA
40	Flinger	304SS
71	Motor Disc	Cast Iron
73	Gasket, Case	Buna
73A	Gasket, Cover	Buna
89	Seal Assembly	BN-CARB/CM
89A	Seal Retainer	304SS