SCOT

MOTORPUMP™ — 1450 RPM

50 HERTZ, 6 X 5 X 8 ANSI Flanged

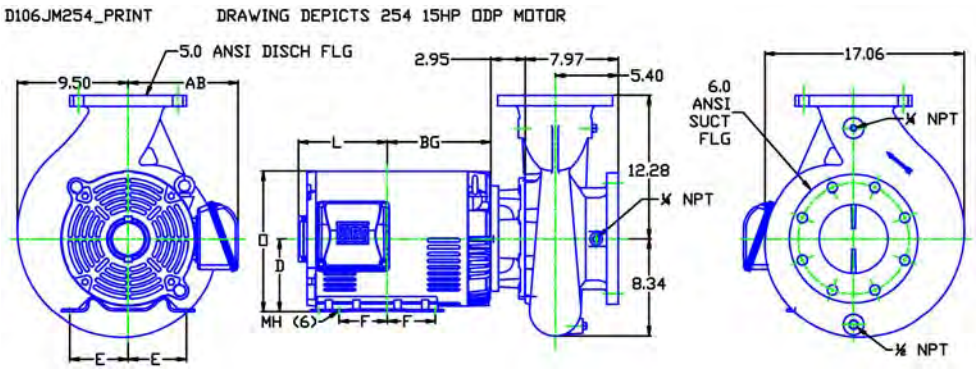
106
JM

MOTOR DIMENSIONS

NEMA JM FRAME 3 PHASE 1450 RPM

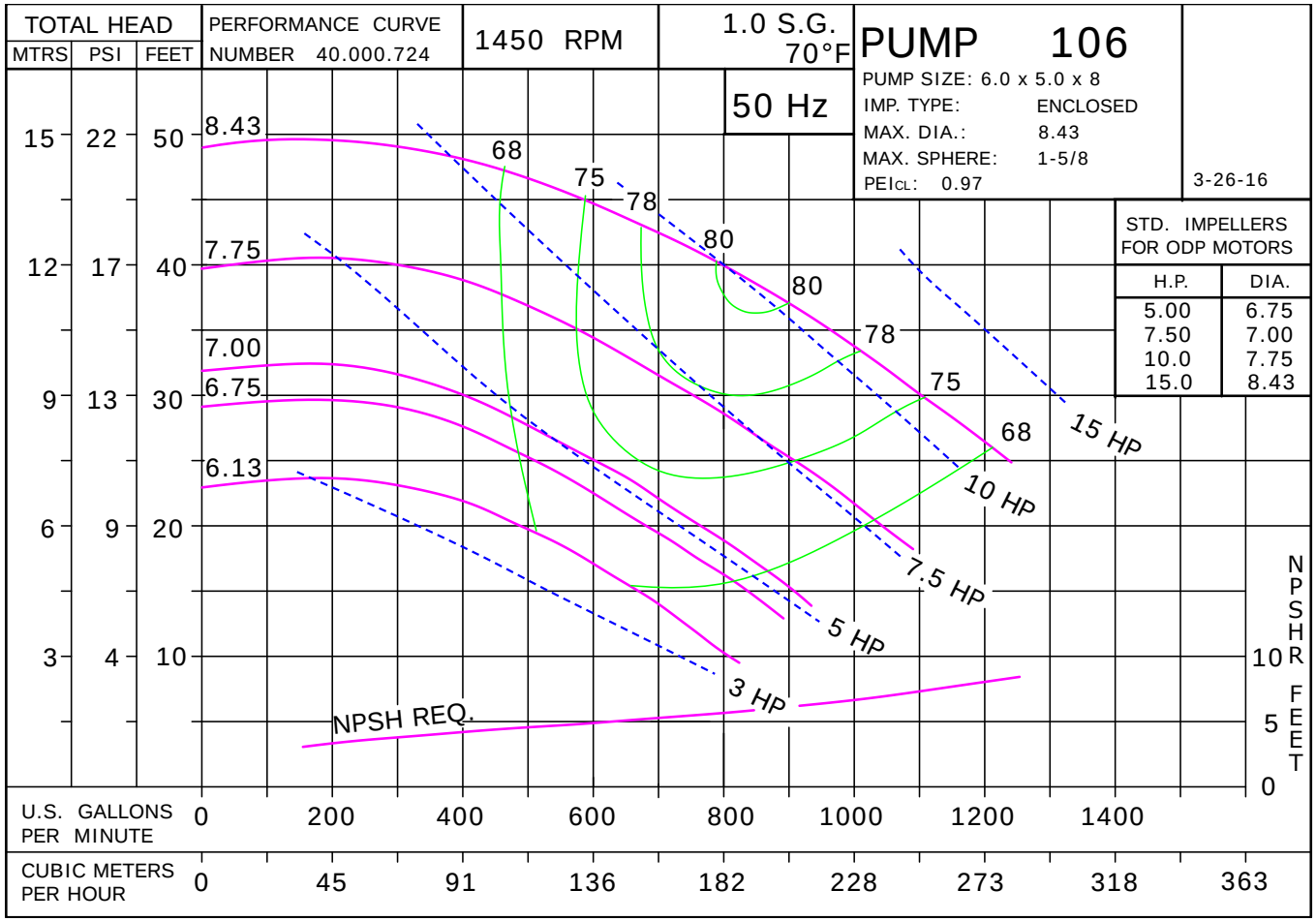
HP	Type	Frame	B	D	E	F	O	AB	BG	L	MH
5	ODP	JM213	5.25	4.25	2.75	10.14	7.97	7.00	6.46	0.41	.41
7.5	ODP	JM215	5.25	4.25	3.50	10.14	7.97	7.75	5.72	0.41	.41
10	ODP	JM254	6.25	5.00	4.13	12.01	9.45	8.88	7.84	0.53	.53
15	ODP	JM256	5.25	5.00	5.00	12.01	9.45	9.75	6.97	0.53	.53
5	TEFC	JM213	5.25	4.25	2.75	10.41	8.67	6.00	8.41	0.41	.41
7.5	TEFC	JM215	5.25	4.25	3.50	10.37	8.19	6.77	9.16	0.41	.41
10	TEFC	JM254	6.25	5.00	4.13	12.60	10.48	8.38	10.85	0.53	.53
15	TEFC	JM254	6.25	5.00	5.00	12.60	10.48	9.25	11.73	0.53	.53

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.



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81.002.195 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*.

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

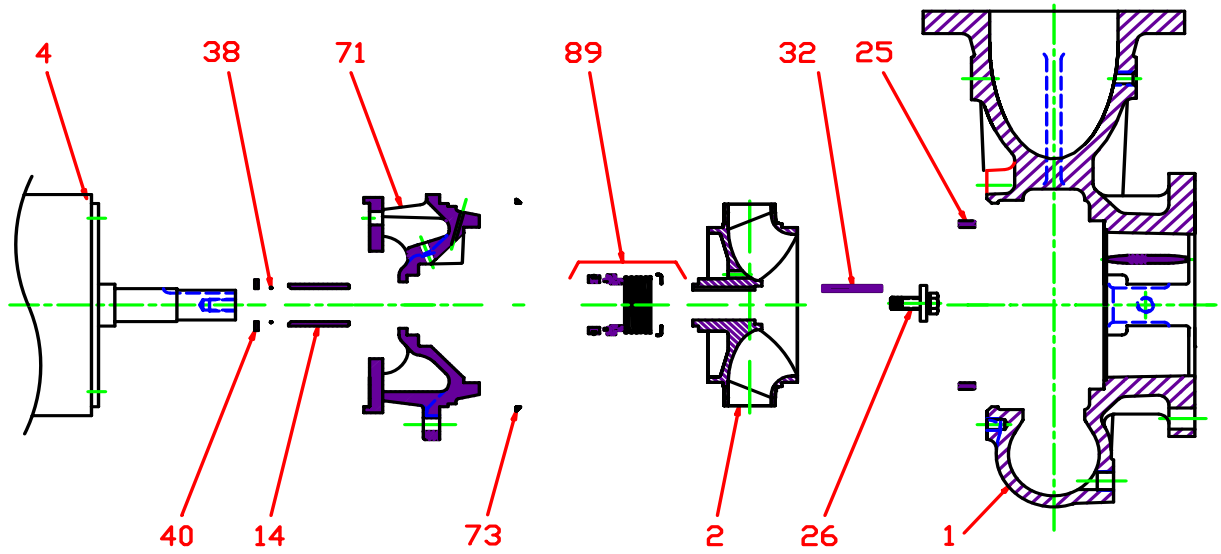
Change of Speed (RPM)

	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 106 • Iron • JM Frame • 1450 RPM



KEY NO.	PART NAME	PUMP NO. 106	
		5 - 7.5 HP	10 - 15 HP
1+	CASE, IRON, 6 x 5 FLG	137.002.597X	
2	IMPELLER, IRON, 1 ¼" KEYED, ENCLOSED	**7/8" KEYED**	**1 1/4" KEYED**
	SPECIFY DIAMETER	137.002.598	137.002.715
	6.13"	137.002.598A	--
	Contact factory for 6.13"-6.75" diameters		
4	MOTOR, JM210	See 60HZ Chart	--
	MOTOR, JM250	--	See 60HZ Chart
14*	SHAFT SLEEVE, BRONZE	110.000.215	110.000.366
	SHAFT SLEEVE, STAINLESS	110.000.313	110.000.365
25	WEAR RING, BRONZE	103.000.204	
	WEAR RING, STEEL	103.000.186	
26*	IMPELLER RETAINER, STAINLESS	118.000.163A	118.000.640
32*	KEY, STAINLESS	102.000.256	102.000.257
38*	O-RING, SHAFT, BUNA	116.000.117	116.000.218
	O-RING, SHAFT, VITON	116.000.105	116.000.218A
40*	FLINGER, STAINLESS	104.000.256	104.000.200
71	ADAPTER, IRON, JM210	137.002.599X	--
	ADAPTER, IRON, JM250	--	137.002.716X
73*	GASKET, CASE, FIBER	116.000.261	
89*	SEALS:	**1½"**	**1¾"**
	BN-CARB/CM	101.000.168	101.000.196
	VN-CARB/CM	101.000.191	101.000.216
	VN-CARB/SIL	101.000.175	101.000.221
	VN-SIL/SIL	101.000.204	101.000.231
	EPDM-CARB/SIL	101.000.175B	101.000.196B
	EPDM-SIL/SIL	101.000.204A	137.001.555
--	º REPAIR KITS:		
	BN-CARB/CM SEAL	118.000.655	118.000.672
	VN-CARB/CM SEAL (S)	118.000.655A	118.000.672A
	VN-CARB/CM SEAL	118.000.655D	118.000.672D
	VN-CARB/SIL SEAL	118.000.655B	118.000.672B
	VN-SIL/SIL SEAL (S)	118.000.655E	118.000.672E
	EPDM-CARB/SIL SEAL	118.000.655C	118.000.672C
	EPDM-SIL/SIL SEAL	118.000.655F	118.000.672F

* DENOTES COMPONENTS INCLUDED IN REPAIR KIT.
\+ INCLUDES BRONZE WEAR RING. FOR STEEL WEAR RING, REPLACE SUFFIX "X" WITH "X1".
º THE REPAIR KIT INCLUDES THE BRONZE SHAFT SLEEVE EXCEPT THE (S) INDICATED, WHICH IS STAINLESS.

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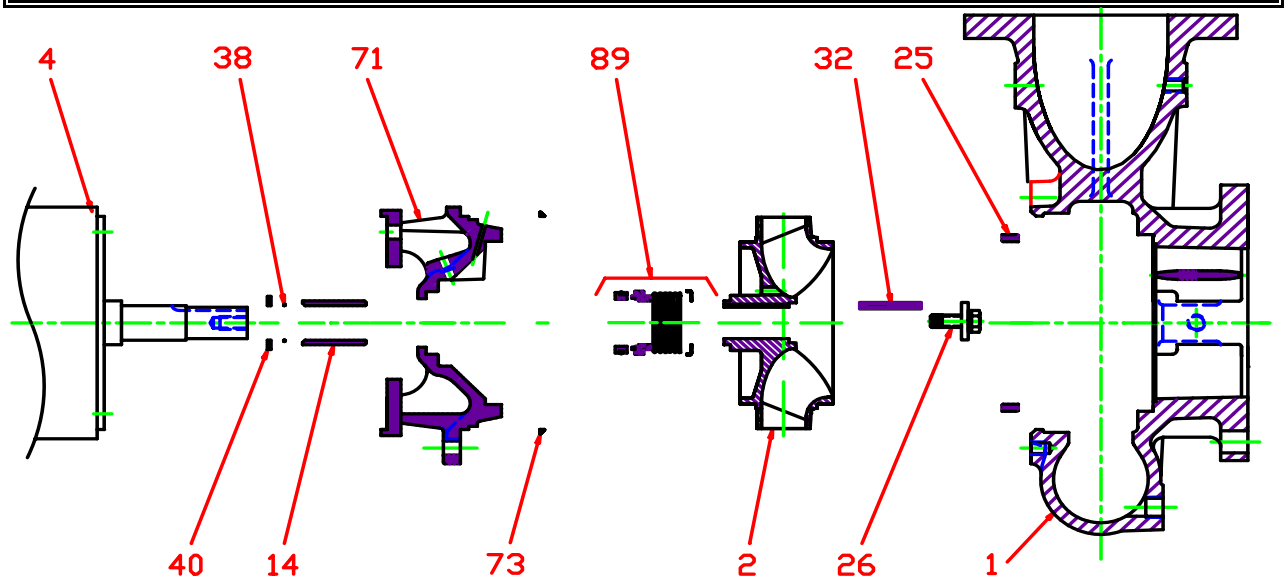

CONSTRUCTION OPTIONS			
KEY	PART NAME	STANDARD FITTED	ALL IRON
1	Case	Iron	Iron
2	Impeller	Iron	Iron
14	Shaft Sleeve	Bronze	Stainless
25	Wear Ring, Case	Bronze	Steel
26	Impeller Retainer	Stainless	Stainless
32	Key	Stainless	Stainless
38	Shaft O-Ring	BUNA	BUNA
40	Flinger	Stainless	Stainless
71	Adapter	Iron	Iron
73	Gasket, Case	Fiber	Fiber
89	Mechanical Seal, Type 21 BN-CM	Standard	Standard
H	Plug, Drain	Brass	Plated Steel

E106JM

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