

50 HERTZ, 3 X 3 X 5.63 NPT

MOTOR DIMENSIONS

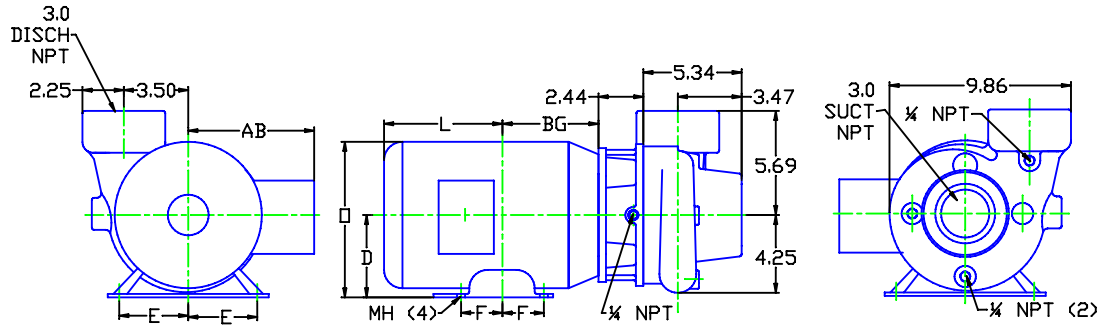
NEMA JM FRAME 3 PHASE 2900 RPM

HP	Type	Frame	D	E	F	O	AB	BG	L	MH
1.5	ODP	JM145	3.50	2.75	2.00	6.72	5.87	4.75	5.08	0.34
2	ODP	JM145	3.50	2.75	2.00	6.72	5.87	5.25	4.97	0.34
3	ODP	JM182	4.50	3.75	2.25	8.56	6.70	5.75	6.25	0.41
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
1.5	TEFC	JM145	3.50	2.75	2.50	7.00	6.25	5.06	6.34	0.34
2	TEFC	JM182	4.50	3.75	2.25	8.85	7.57	5.01	7.14	0.41
3/5	TEFC	JM184	4.50	3.75	2.25	9.34	7.57	5.00	7.76	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.

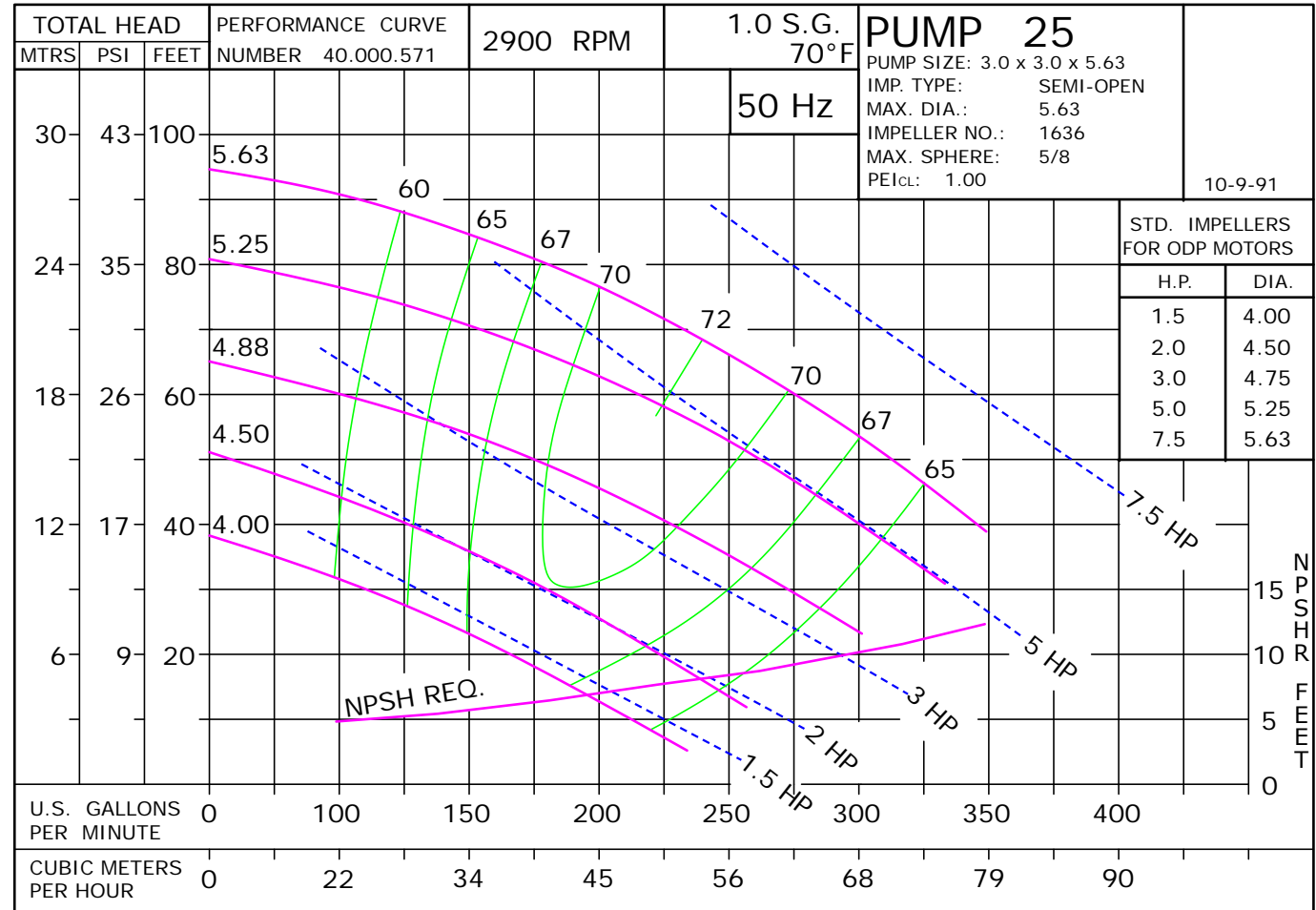
D025JM184

DRAWING DEPICTS 184JM 7.5HP ODP MOTOR



ALL DIMENSIONS IN INCHES.

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



01515TE

D025JM184
0252900

25 JM

0252900JM

81.001.444 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.**

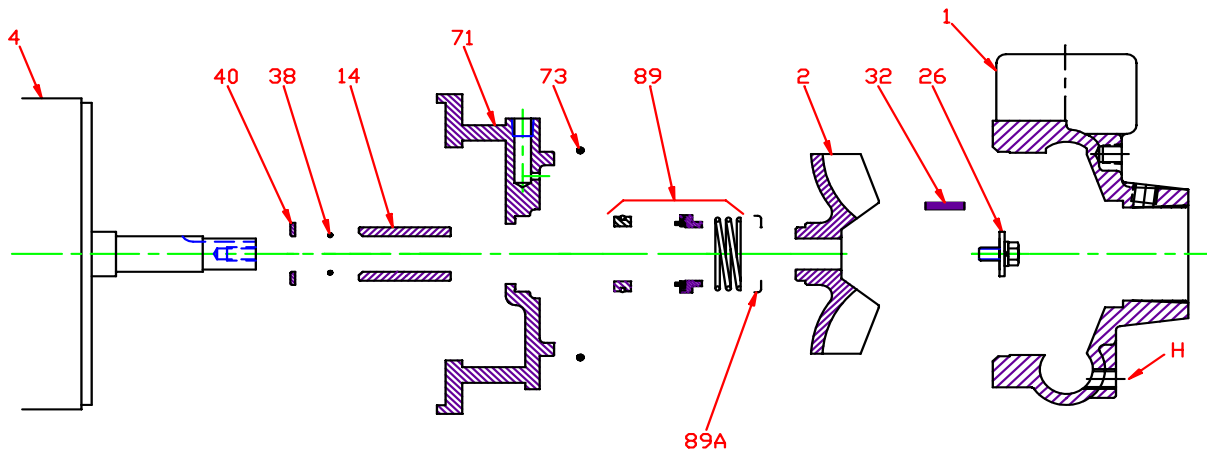
60 Hz Pump on 50 Hz Power		
No Impeller Change		
50 Hz	60 Hz	Factor
GPM =	GPM x	0.829
Head =	Head x	0.687
BHP =	HP x	0.569

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

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)

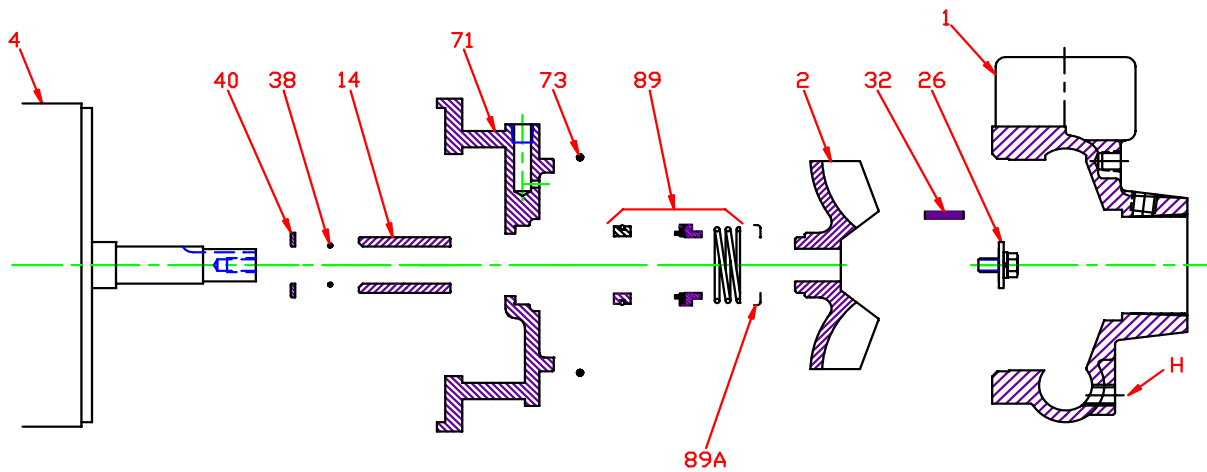
Pump 25 • Iron • JM Frame • 2900 RPM



KEY NO.	PART NAME	Pump No. 25
1	CASE, IRON, 3 x 3 NPT	130.000.224X
2	IMPELLER, 7/8" KEYED, SEMI-OPEN, SPECIFY DIAMETER: IRON BRONZE	137.000.342 131.000.807
4	MOTOR, JM140/180 MOTOR, JM210	See 60HZ Chart See 60HZ Chart
14*	SHAFT SLEEVE, BRONZE SHAFT SLEEVE, STAINLESS	110.000.178 110.000.192
26*	IMPELLER RETAINER, STAINLESS	118.000.111A
32*	KEY, STAINLESS	102.000.102
38*	O-RING, SHAFT, BUNA O-RING, SHAFT, VITON	116.000.117 116.000.105
40*	FLINGER, STAINLESS	104.000.165A
71	ADAPTER, IRON, JM140/180 ADAPTER, IRON, JM210	132.000.194X 132.000.195X
73*	GASKET, CASE, BUNA	116.000.146
89*	1½" SEALS: BN-CARB/CM VN-CARB/CM VN-CARB/SIL VN-SIL/SIL EPDM-CARB/SIL EPDM-SIL/SIL	101.000.168 101.000.191 101.000.175 101.000.204 101.000.175B 101.000.204A
89A*	SEAL RETAINER	104.000.202
--	° REPAIR KITS: BN-CARB/CM SEAL VN-CARB/CM SEAL (S) VN-CARB/CM SEAL VN-CARB/SIL SEAL VN-SIL/SIL SEAL (S) EPDM-CARB/SIL SEAL EPDM-SIL/SIL SEAL	118.000.615 118.000.615A 118.000.615M 118.000.615B 118.000.615F 118.000.615D 118.000.615G

* DENOTES COMPONENTS INCLUDED IN REPAIR KIT.
 ° ALL REPAIR KITS INCLUDE THE BRONZE SHAFT SLEEVE EXCEPT THE (S) INDICATED, WHICH IS STAINLESS WITH VITON SHAFT O-RING.

Pump 25 • Iron • JM Frame • 2900 RPM



KEY NO.	PART NAME	Pump No. 25
1	CASE, IRON, 3 x 3 NPT	130.000.1224X
2	IMPELLER, 7/8" KEYED, SEMI-OPEN, SPECIFY DIAMETER:	
	IRON	137.000.342
	BRONZE	131.000.807
4	MOTOR, JM140/180	See 60HZ Chart
	MOTOR, JM210	See 60HZ Chart
14*	SHAFT SLEEVE, BRONZE	110.000.178
	SHAFT SLEEVE, STAINLESS	110.000.192
26*	IMPELLER RETAINER, STAINLESS	118.000.111A
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, IRON, JM140/180	132.000.194X
	ADAPTER, IRON, JM210	132.000.195X
73*	GASKET, CASE, BUNA	116.000.146
89*	1½" SEALS:	
	BN-CARB/CM	101.000.168
	VN-CARB/CM	101.000.191
	VN-CARB/SIL	101.000.175
	VN-SIL/SIL	101.000.204
	EPDM-CARB/SIL	101.000.175B
	EPDM-SIL/SIL	101.000.204A
89A*	SEAL RETAINER	104.000.202
--	° REPAIR KITS:	
	BN-CARB/CM SEAL	118.000.615
	VN-CARB/CM SEAL (S)	118.000.615A
	VN-CARB/CM SEAL	118.000.615M
	VN-CARB/SIL SEAL	118.000.615B
	VN-SIL/SIL SEAL (S)	118.000.615F
	EPDM-CARB/SIL SEAL	118.000.615D
EPDM-SIL/SIL SEAL	118.000.615G	

* DENOTES COMPONENTS INCLUDED IN REPAIR KIT.

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