

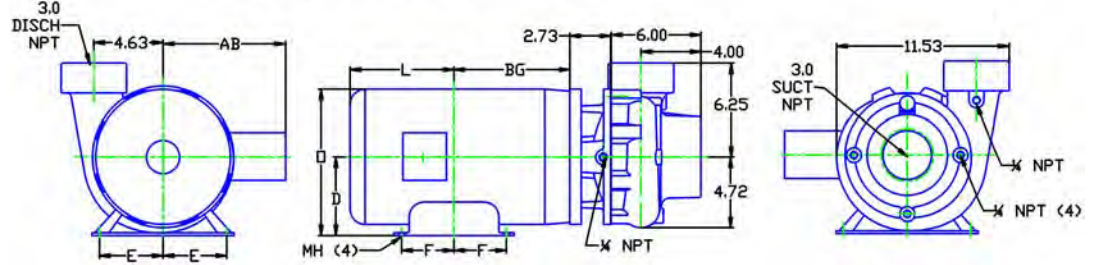
#### MOTOR DIMENSIONS

NEMA 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
10	ODP	JM215	5.25	4.25	3.50	10.14	7.97	8.00	6.64	0.41
15	ODP	JM254	6.25	5.00	4.13	12.01	9.45	9.13	7.59	0.53
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
15	TEFC	JM256	6.25	5.00	5.00	12.76	10.48	9.01	11.70	0.53

D055JM215

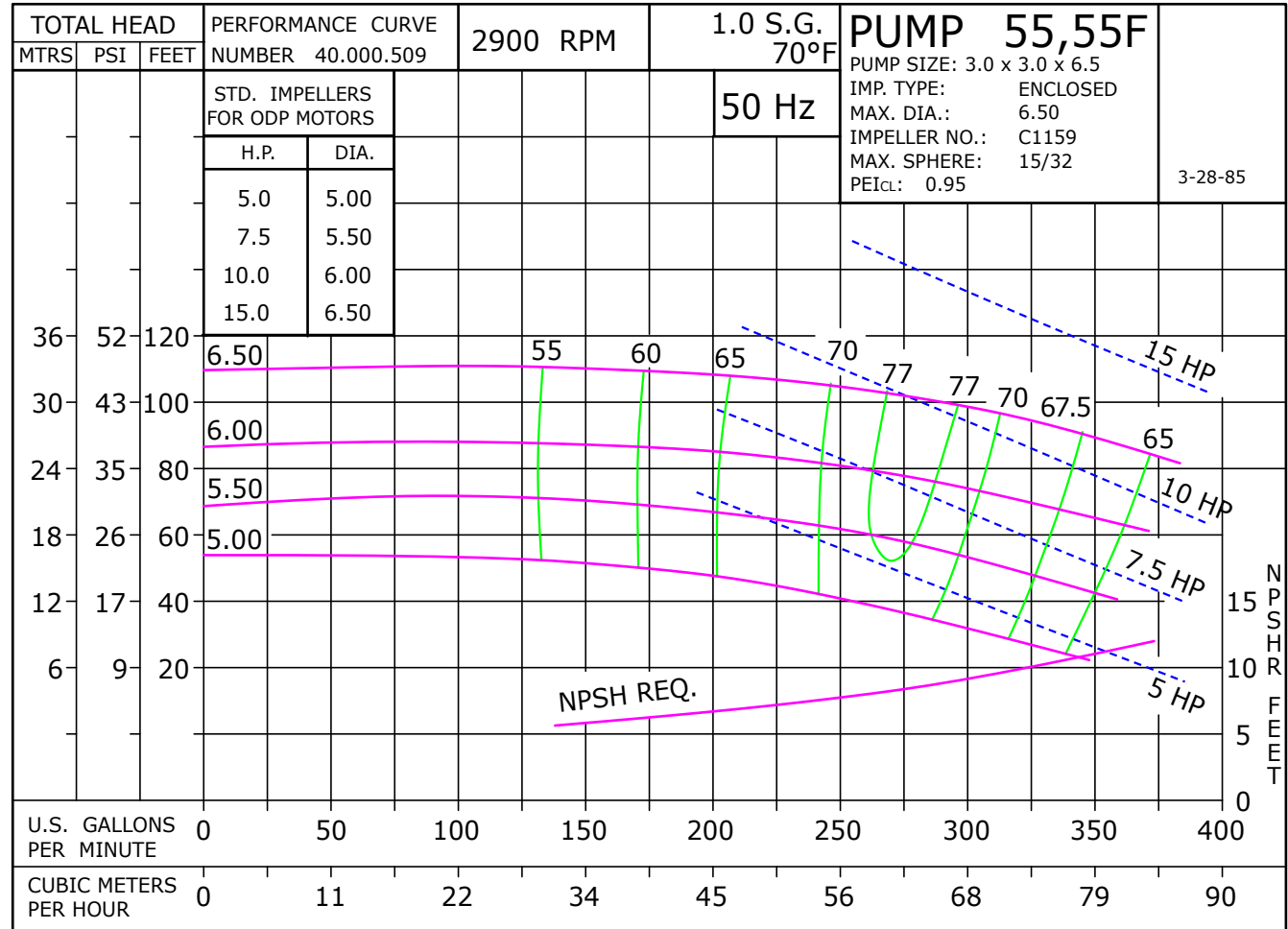
DRAWING DEPICTS 15 HP JM215 ODP MOTOR



#### ALL DIMENSIONS IN INCHES

DRAWING REPRESENTS APPROXIMATE PUMP DIMENSIONS. AUTOCAD DRAWING TO SCALE AVAILABLE FROM FAC-

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



05615TE

D055JM215  
0552900

# 55 JM

0552900JM  
81.001.408 A20

# 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.**

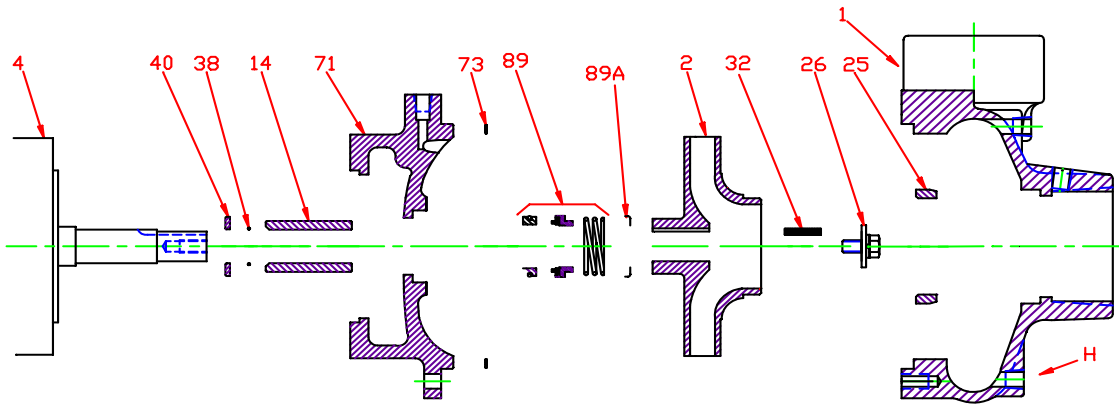
<b>60 Hz Pump on 50 Hz Power</b>		
<b>No Impeller Change</b>		
<b>50 Hz</b>	<b>60 Hz</b>	<b>Factor</b>
GPM =	GPM x	0.829
Head =	Head x	0.687
BHP =	HP x	0.569

<b>To Size 60 Hz Pump Using 50 Hz Data,</b>		
<b>Obtain 60 Hz Data As Follows:</b>		
<b>60 Hz</b>	<b>50 Hz</b>	<b>Factor</b>
GPM =	GPM x	1.2
Head =	Head x	1.45
BHP =	HP =	$\frac{\text{GPM} \times \text{Head} \times \text{SG of}}{3960 \times \text{Eff}}$

<b>Change of Speed (RPM)</b>		
	<b>How Varies:</b>	<b>Examples</b>
GPM	Directly	Double RPM = (2)(RPM) = (2)(GPM) Triple RPM = (3)(RPM) = (3)(GPM)
Head	Square	Double RPM = (2)(RPM) = (2) <sup>2</sup> = (2)(2) = (4)(Head) Triple RPM = (3)(RPM) = (3) <sup>2</sup> = (3)(3) = (9)(Head)
BHP	Cube	Double RPM = (2)(RPM) = (2) <sup>3</sup> = (2)(2)(2) = (8)(BHP) Triple RPM = (3)(RPM) = (3) <sup>3</sup> = (3)(3)(3) = (27)(BHP)

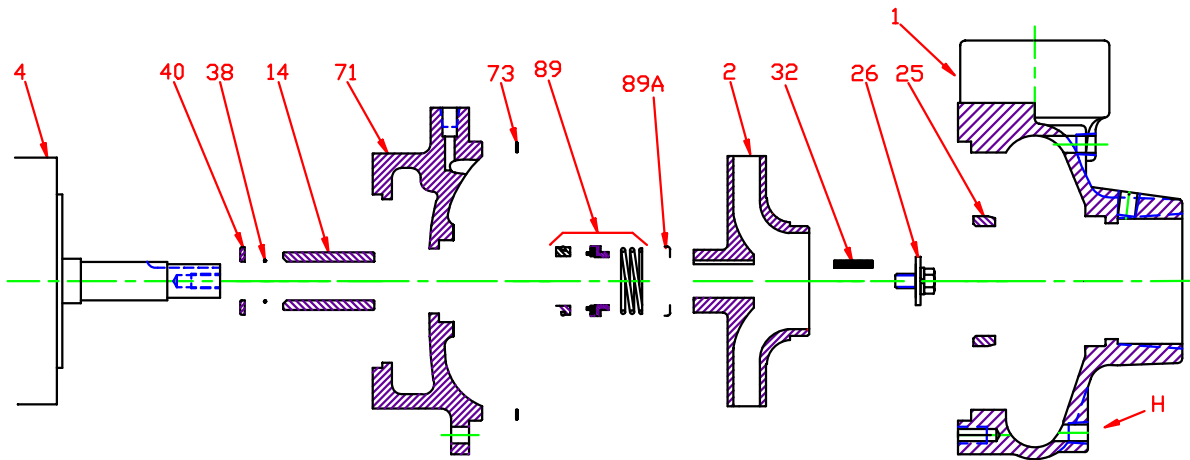
<b>Change of Impeller Diameter (Dia.)</b>		
	<b>How Varies:</b>	<b>Examples</b>
GPM	Directly	Double Dia. = (2)(Dia.) = (2)(GPM) Triple Dia. = (3)(Dia.) = (3)(RPM)
Head	Square	Double Dia. = (2)(Dia.) = (2) <sup>2</sup> = (2)(2) = (4)(Head) Triple Dia. = (3)(Dia.) = (3) <sup>2</sup> = (3)(3) = (9)(Head)
BHP	Cube	Double Dia. = (2)(Dia.) = (2) <sup>3</sup> = (2)(2)(2) = (8)(BHP) Triple Dia. = (3)(Dia.) = (3) <sup>3</sup> = (3)(3)(3) = (27)(BHP)

**Pump 55 • Iron • JM Frame • 2900 RPM**



KEY NO.	PART NAME	PUMP NO. 55	
		5 - 10 HP	15 HP
1+	CASE, IRON, 3 x 3 NPT CASE, IRON, 4 x 3 NPT	130.000.243X --	130.000.243X 130.000.244X
2	IMPELLER, ENCLOSED, SPECIFY DIAMETER: IRON BRONZE	<b>7/8" KEYED</b> 137.000.115 137.000.116	<b>1 1/4" KEYED</b> 137.000.117 137.000.481
4	MOTOR, JM140/180 MOTOR, JM210 MOTOR, JM250	See 60HZ Chart See 60HZ Chart --	-- -- See 60HZ Chart
14*	SHAFT SLEEVE, BRONZE SHAFT SLEEVE, STAINLESS	110.000.178 110.000.192	110.000.248 110.000.261
25	WEAR RING, BRONZE WEAR RING, STEEL	103.000.138 103.000.152	103.000.138 103.000.152
26*	IMPELLER RETAINER, STAINLESS	118.000.163A	118.000.234
32*	KEY, STAINLESS	102.000.102	102.000.208
38*	O-RING, SHAFT, BUNA O-RING, SHAFT, VITON	116.000.117 116.000.105	116.000.218 116.000.218A
40*	FLINGER, STAINLESS	104.000.165	104.000.200
71	ADAPTER, IRON - JM140/180 ADAPTER, IRON - JM210 ADAPTER, IRON - JM250	132.000.202X 132.000.213X --	-- -- 132.000.245X
73*	GASKET, CASE, FIBER	116.000.157	116.000.157
89*	SEALS:	<b>1 1/2"</b>	<b>1 3/4"</b>
	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 EPDM-SIL/SIL	101.000.175B 101.000.204A	101.000.196B 137.001.555
89A*	SEAL RETAINER, STAINLESS	104.000.174	<i>Included w/seal</i>
--	° REPAIR KITS:		
	BN-CARB/CM SEAL	118.000.344	118.000.345
	VN-CARB/CM SEAL (S)	118.000.344A	118.000.345A
	VN-CARB/CM SEAL	118.000.344K	118.000.345E
	VN-CARB/SIL SEAL	118.000.344B	118.000.345B
	VN-SIL/SIL SEAL (S)	118.000.344F	118.000.345C
	EPDM-CARB/SIL SEAL	118.000.344C	118.000.345F
	EPDM-SIL/SIL SEAL	118.000.344D	118.000.345G

**Pump 55 • Iron • JM Frame • 2900 RPM**



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

\* Included with seal on 20-25 HP

E054JM

B11

C0552900JM