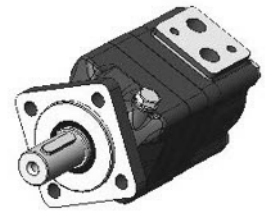


# *MS SERIES*

## *HYDRAULIC MOTOR*

### *HIGH TORQUE - LOW SPEED*



TYPE		MS SERIES								
MOTOR SIZE		75	100	125	150	200	250	300	400	
DISPLACEMENT	cm <sup>3</sup>	81.8	101.3	126.3	161.0	201.2	251.2	315.9	400.4	
	in <sup>3</sup>	4.91	5.00	7.72	9.85	12.31	15.36	19.32	24.49	
MAX. SPEED	rpm cont.	810	750	600	450	375	300	240	190	
	rpm int.	1000	900	720	560	450	360	285	230	
MAX. TORQUE	Nm cont.	240	305	275	490	610	720	825	865	
	lbf.in cont.	2120	2700	3320	4340	5400	6370	7300	7660	
	Nm int.	310	390	490	600	720	870	1000	990	
	lbf.in int.	2740	3450	4340	5310	6370	7700	8850	8760	
MAX. PRESSURE DROP	bar cont.	210	210	210	210	210	200	200	160	
	psi int.	3050	3050	3050	3050	3050	2900	2900	2320	
	bar int.	275	275	275	260	250	250	240	190	
	psi int.	3990	3990	3990	3770	3630	3630	3480	2760	
MAX. OIL FLOW	lpm cont.	65	75	75	75	75	75	75	75	
	gpm cont.	14.3	16.5	16.5	16.5	16.5	16.5	16.5	16.5	
	lpm int.	80	90	90	90	90	90	90	90	
	gpm int.	17.6	19.8	19.8	19.8	19.8	19.8	19.8	19.8	
WEIGHT	MSA, MSAS	kg	11	11.2	11.2	12.0	12.5	13.0	13.7	14.5
	MSW	kg	11.4	11.6	11.9	12.3	12.8	13.4	14.1	15.0
	MSAM	kg	11.2	11.4	11.4	12.2	12.7	13.2	13.9	14.7
	MS-RP	kg	12	12.2	12.2	13	13.5	14	14.7	15.5
	MSS	kg	8.5	8.7	9.0	9.4	9.9	10.5	11.2	12.0
	MSSS	kg	5.6	5.8	6.1	6.5	7.0	7.6	8.3	9.1

Maximum inlet pressure 4350 psi - 300 bar

High pressure shaft seal drain line not required for most applications.

Maximum pressure drop and speed must not be reached simultaneously.  
Intermittent operation may occur for 10% max. of every minute.

At speeds lower than 10 rpm please consult our Technical Department.

Mineral based hydraulic fluids with anti-wear additives are recommended with a viscosity of 35 mm<sup>2</sup>/s at a temperature of 50 C.

Minimum recommended oil viscosity 13 mm<sup>2</sup>/s at operating temperature.

Recommended oil cleanliness ISO 19/14 with a nominal filtration of 25 micron or better.

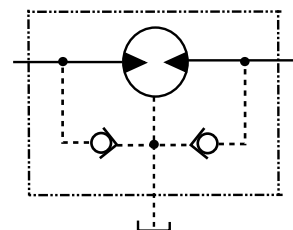
Where non-flammable fluids are to be used it is advisable to consult our Technical Department.

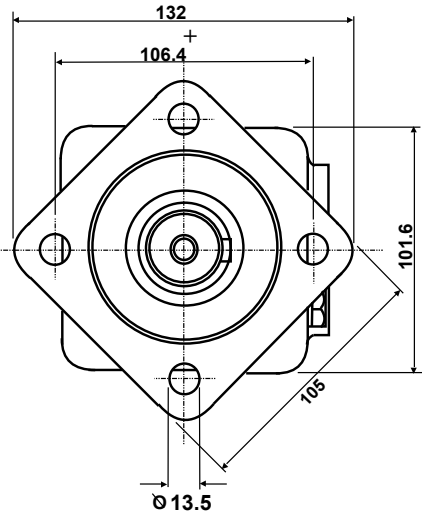
Ambient temperature should be between -30°C and +90°C.

Normal operating temperature should be between +30°C and +60°C.

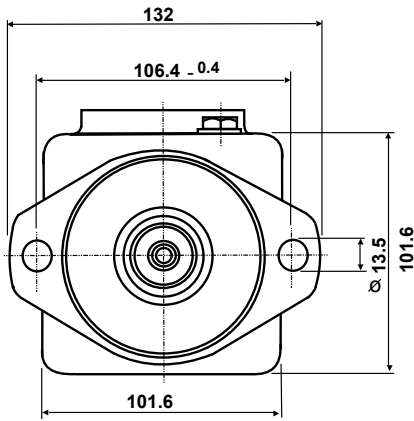
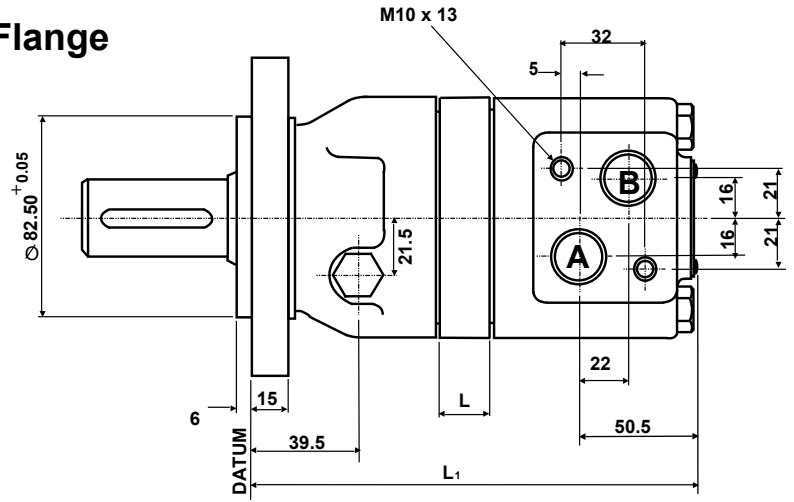
Maximum operating temperature +85°C.

#### SYMBOL

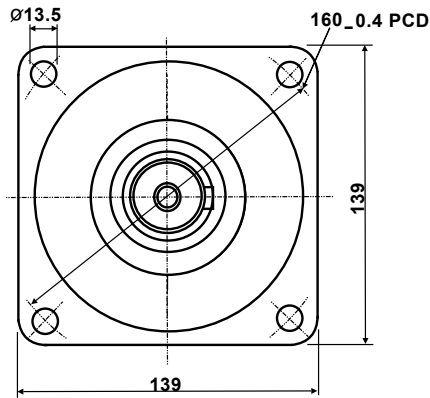
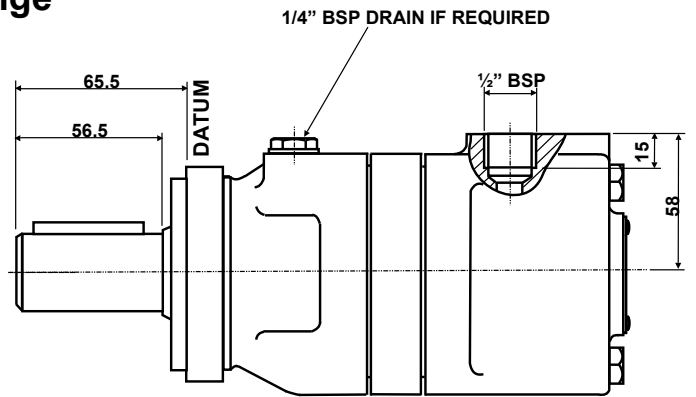




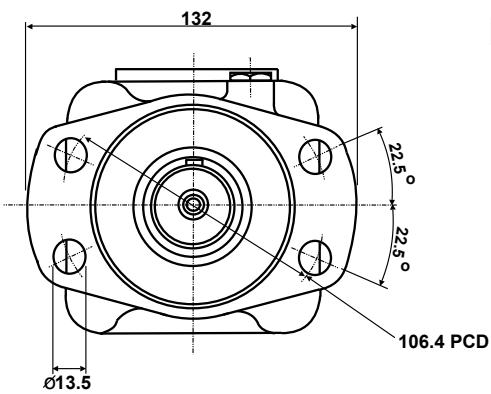
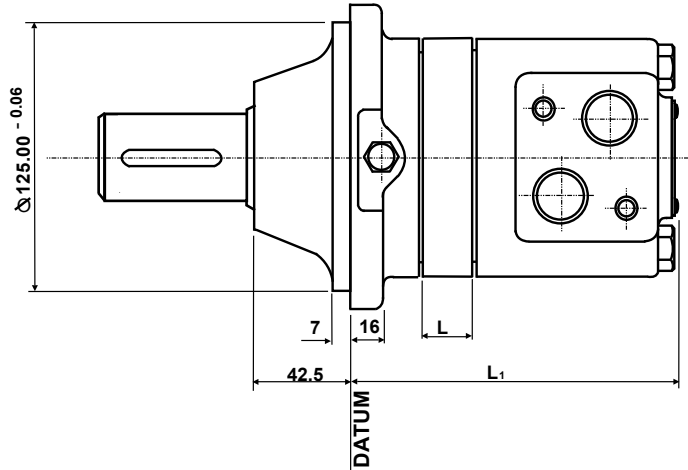
**4 Bolt Flange**



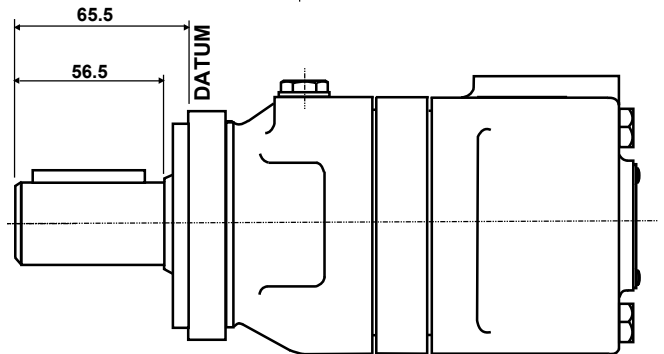
**2 Bolt Flange**



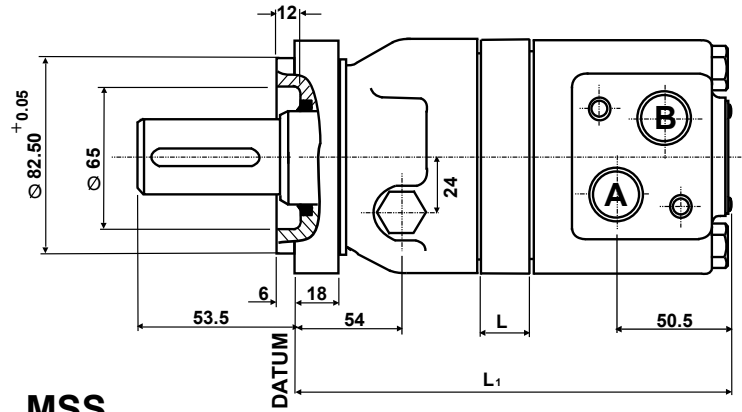
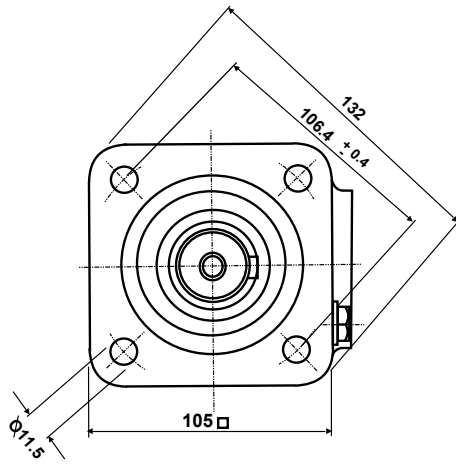
**MSW**



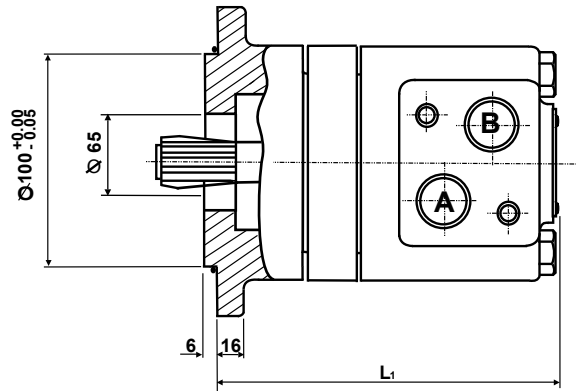
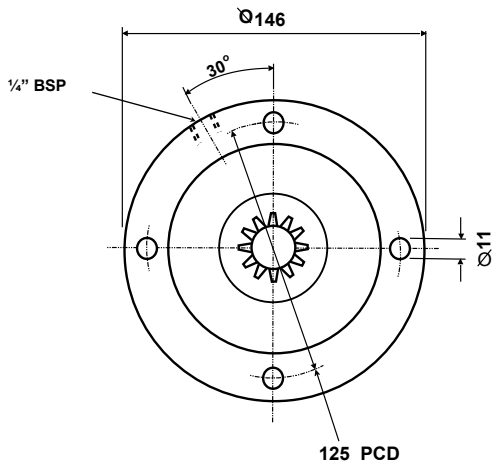
**MSAM**



MSAS

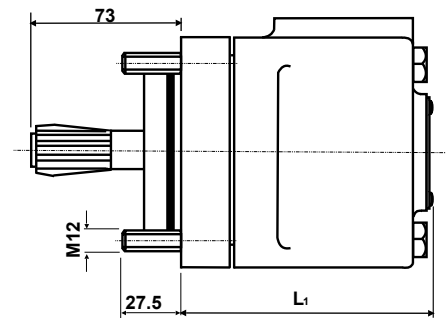
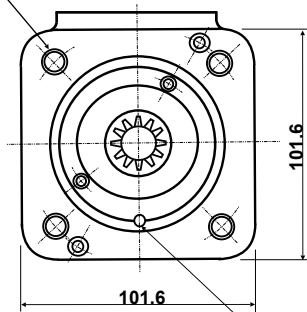


MSS



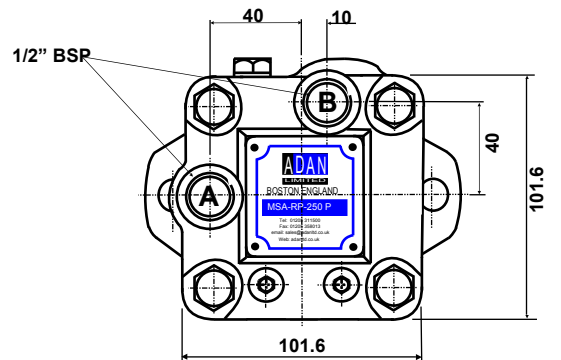
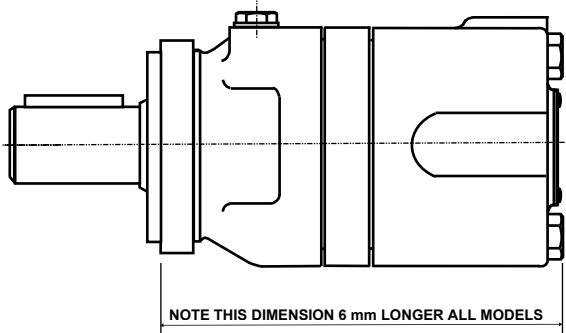
4 MOUNTING BOLTS ON 108 PCD

MSSS

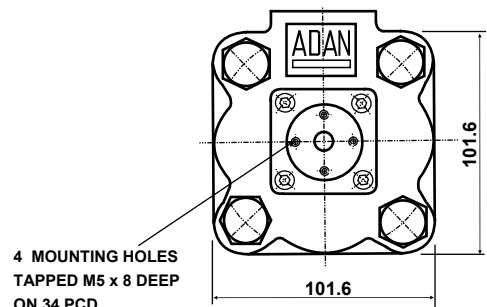
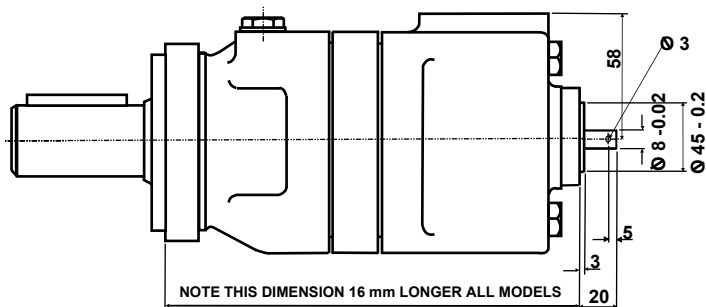


DRAIN Ø 5 ON 77 PCD

RP

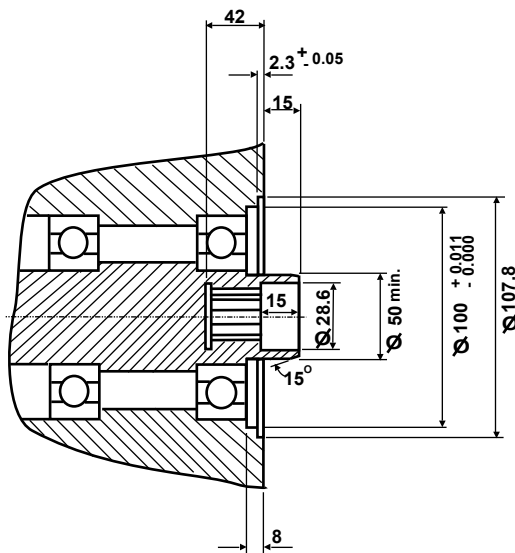


TA

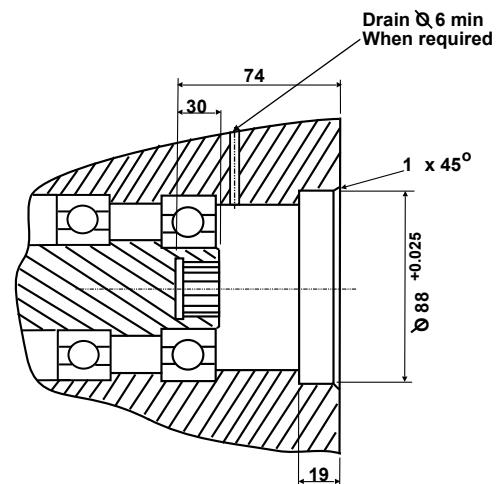


Motor size	Dimn.	75	100	125	150	200	250	300	400
ALL TYPES	L	6.7	10.1	14.5	20.5	27.5	36.2	47.5	62.2
MSA/MSAM	L <sub>1</sub>	174.3	177.7	182.0	188.1	195.1	203.8	215.0	229.8
MSW	L <sub>1</sub>	136.3	139.7	144.0	150.1	157.1	165.8	177.0	191.8
MSAS	L <sub>1</sub>	185.3	188.7	193.0	199.1	206.1	214.8	226.0	240.8
MSS	L <sub>1</sub>	138.8	142.2	146.5	152.5	159.5	168.3	179.5	194.3
MSSS	L <sub>1</sub>	87.8	91.2	95.5	101.5	108.5	117.3	128.5	143.3

MATING DIMENSIONS MSS



MATING DIMENSIONS MSSS



**INTERNAL SPLINE DATA**

FILLET ROOT SIDE FIT, 12 TEETH, 12/24 DP, 30° PRESSURE ANGLE, PITCH DIA. 25.4, MAJOR DIA. 28.0/27.9, MINOR DIA. 23.00/23.033, FILLET RAD. 0.2 MIN, MEASUREMENT BETWEEN 4.834/4.836 DIA. PINS 17.62/17.77

**MATING COMPONENT MATERIAL**

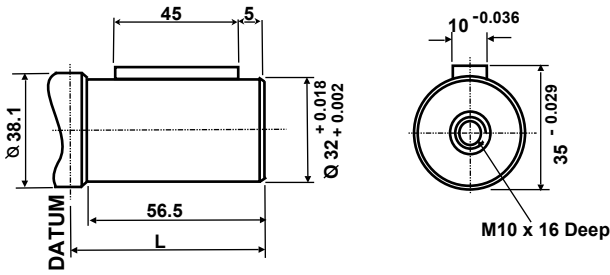
CASE HARDENING STEEL TREATED TO 58/60 ROCKWELL 'C' 0.7 mm CASE DEPTH.

**IMPORTANT**

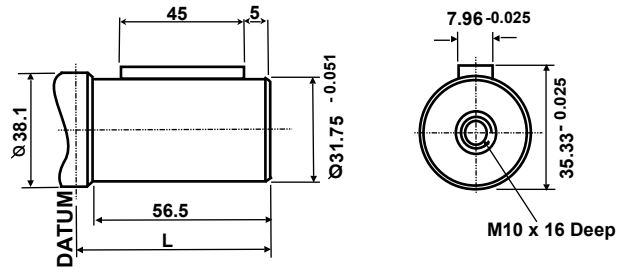
When using MSS or MSSS motors a drain line is required if the pressure in the return line exceeds the permissible pressure of the seal fitted to the attached component.

The drain line if fitted should be run to tank in such a way that there is no risk of the motor or component being drained of oil when at rest.

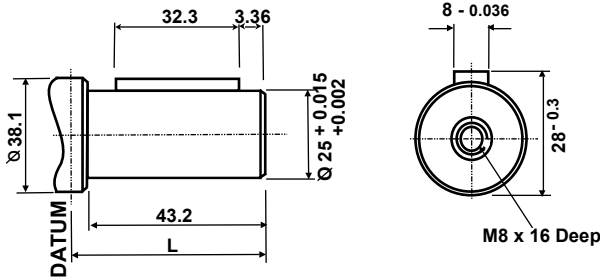
Standard 32mm Shaft - P



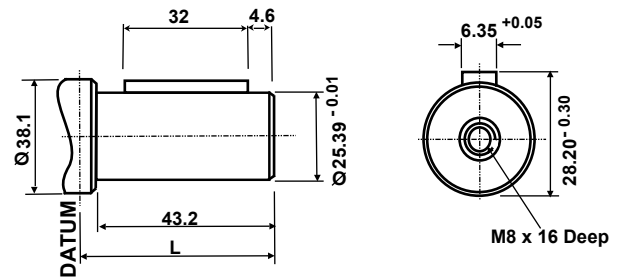
1 1/4" Dia. Shaft - U



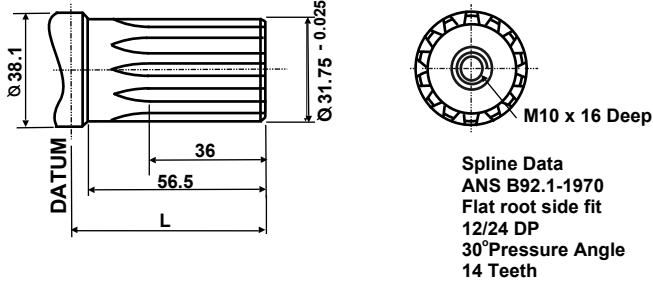
Metric 25mm Shaft - M



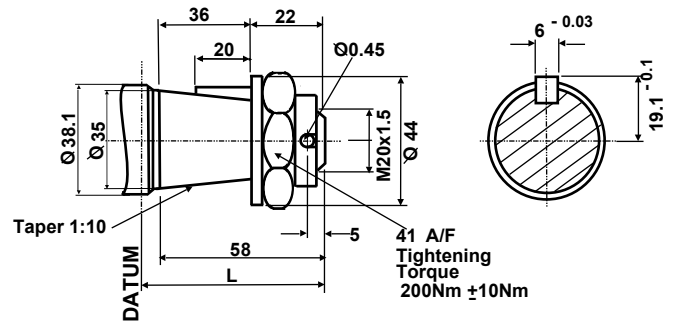
1" Dia Shaft - E



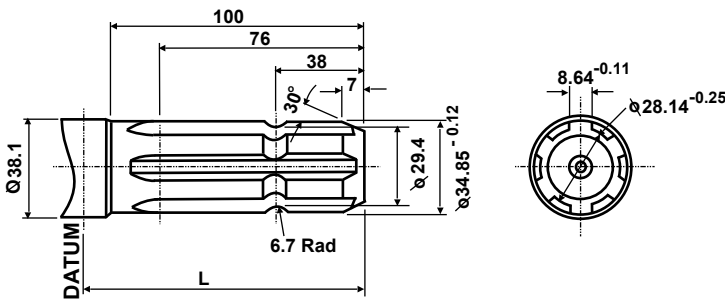
Splined Shaft - S



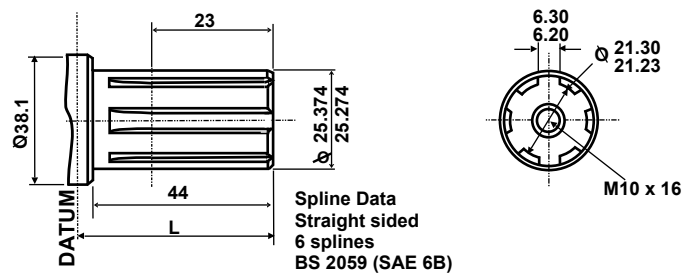
Tapered Shaft - T



PTO Shaft - D

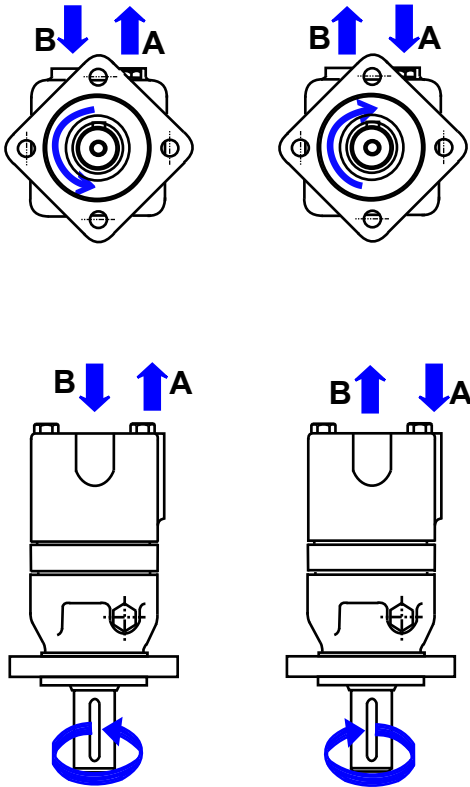


6 Splined Shaft - 6S

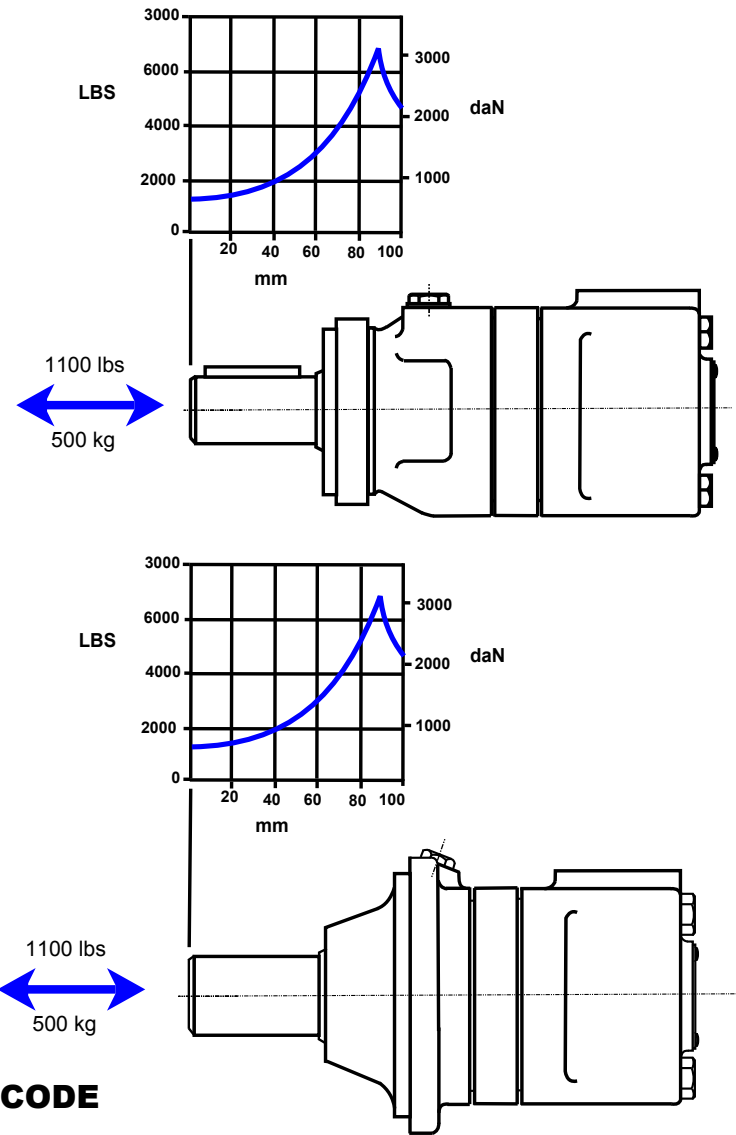


Dim.	MOTOR TYPE	SHAFT TYPE							
		P	U	M	E	S	T	D	6S
L	MSA/MSAM	65.5	65.5	52.2	52.2	65.5	65.5	109.0	53.0
	MSAS	53.5	53.5	40.2	40.2	53.5	53.5	99.0	43.0
	MSW	103.5	103.5	90.2	90.2	103.5	105.0	147.0	91.0
MAX SHAFT TORQUE	cont.	Nm	850		300		850		360
		lbf.in	7250		3190		7250		3190
	int.	Nm	990		410		990		450
		lbf.in	8760		3630		8760		3980

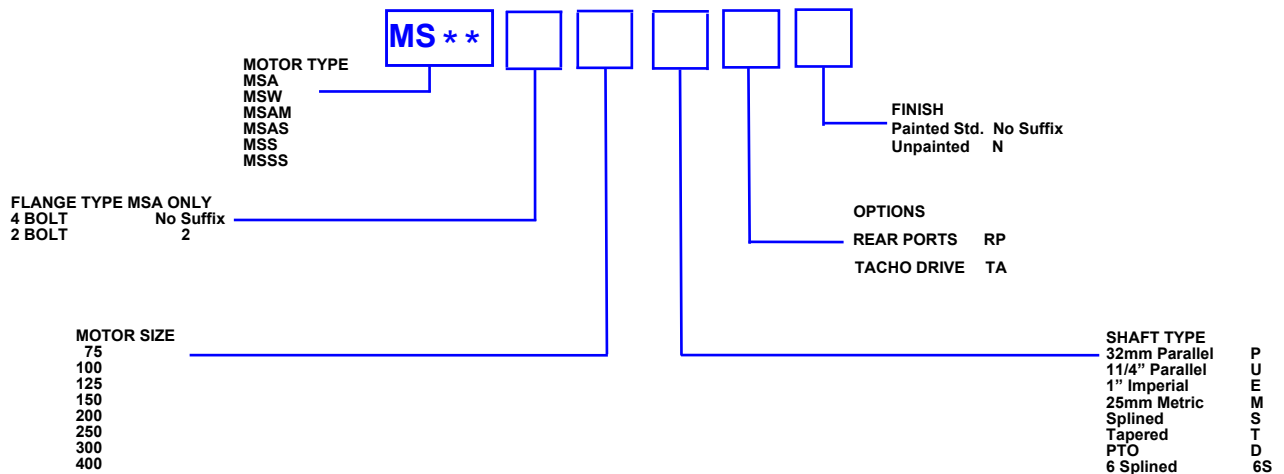
SHAFT ROTATION



SHAFT LOADING



ORDERING CODE



# PERFORMANCE GRAPHS 75 & 100 cc

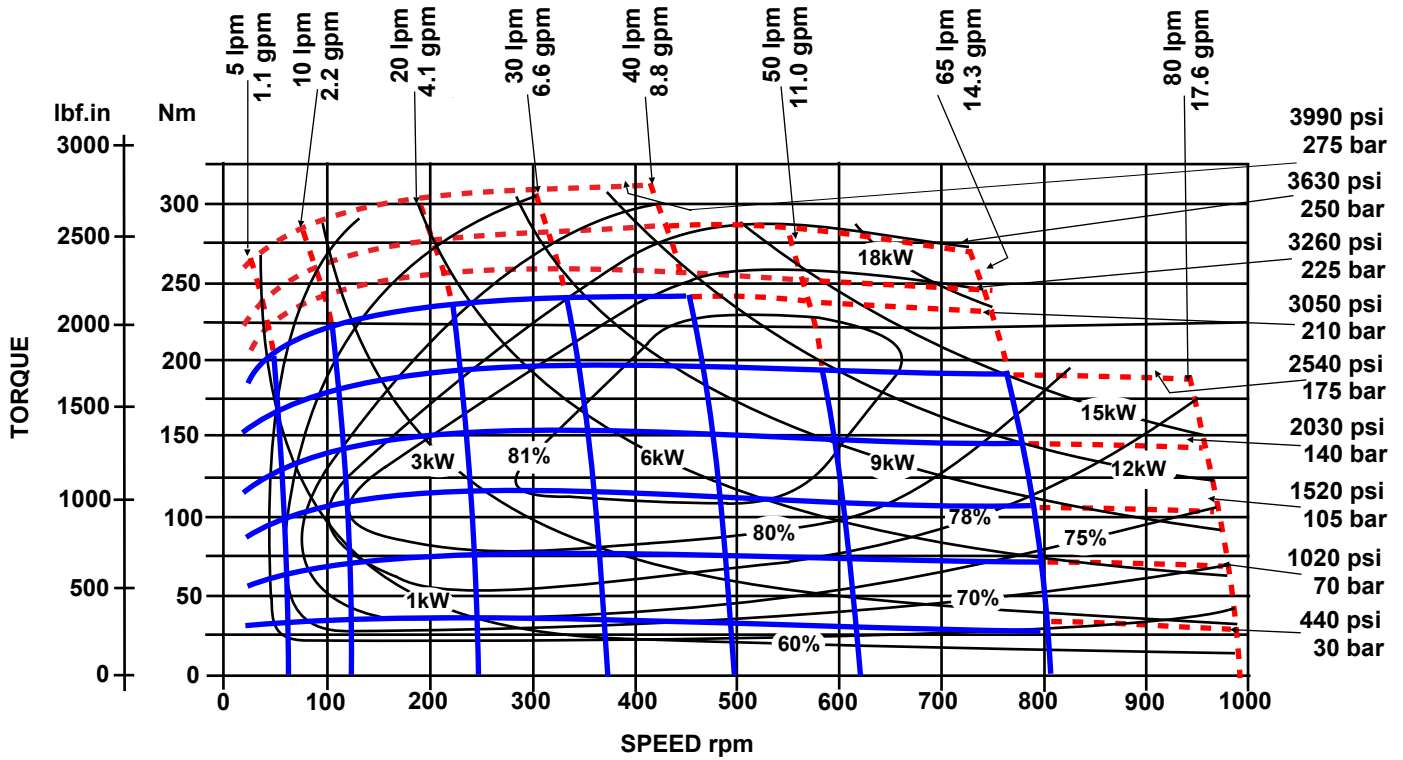
# MS SERIES

Solid blue lines represent continuous operation. Dotted red lines represent intermittent operation permissible for 10% of every minute.

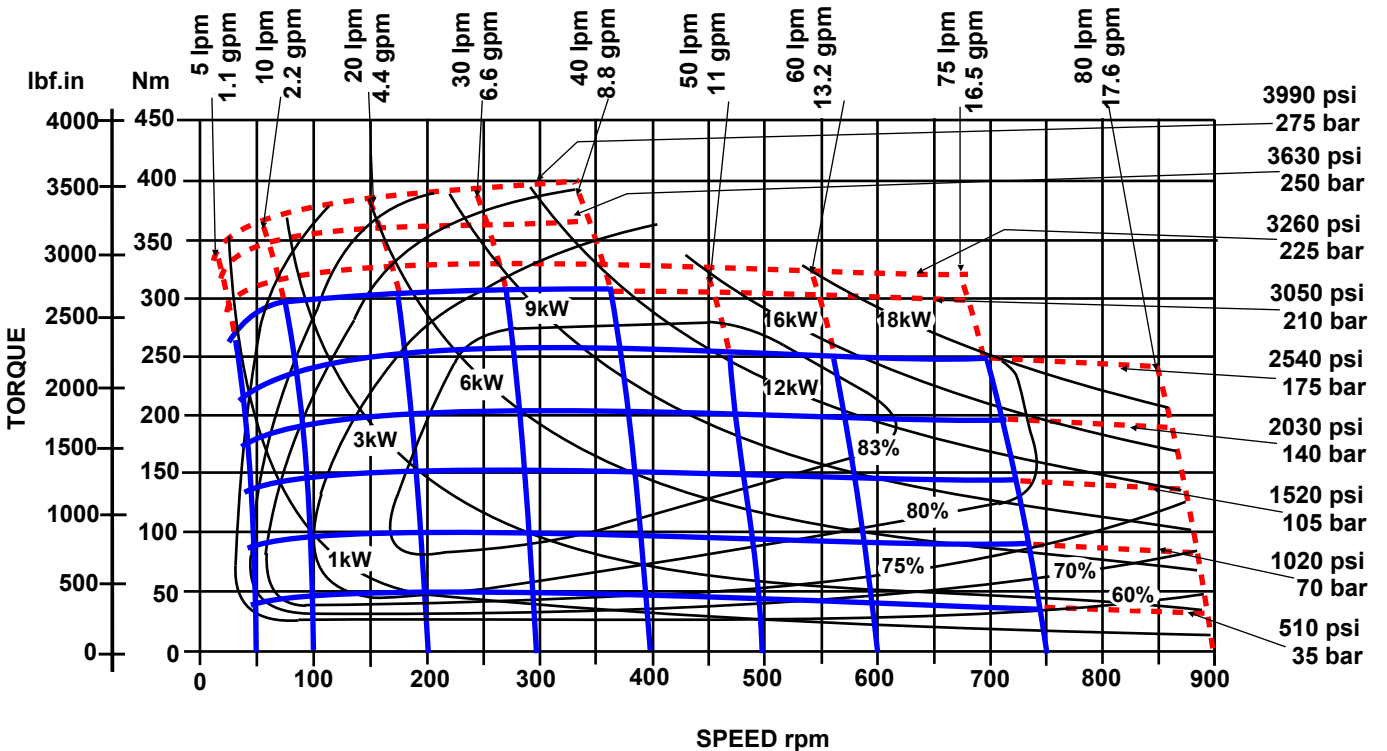
Maximum pressure drop and maximum speed must not occur simultaneously.

Maximum values are dependant on shaft type see note on page 5.

## MSA 75



## MSA 100





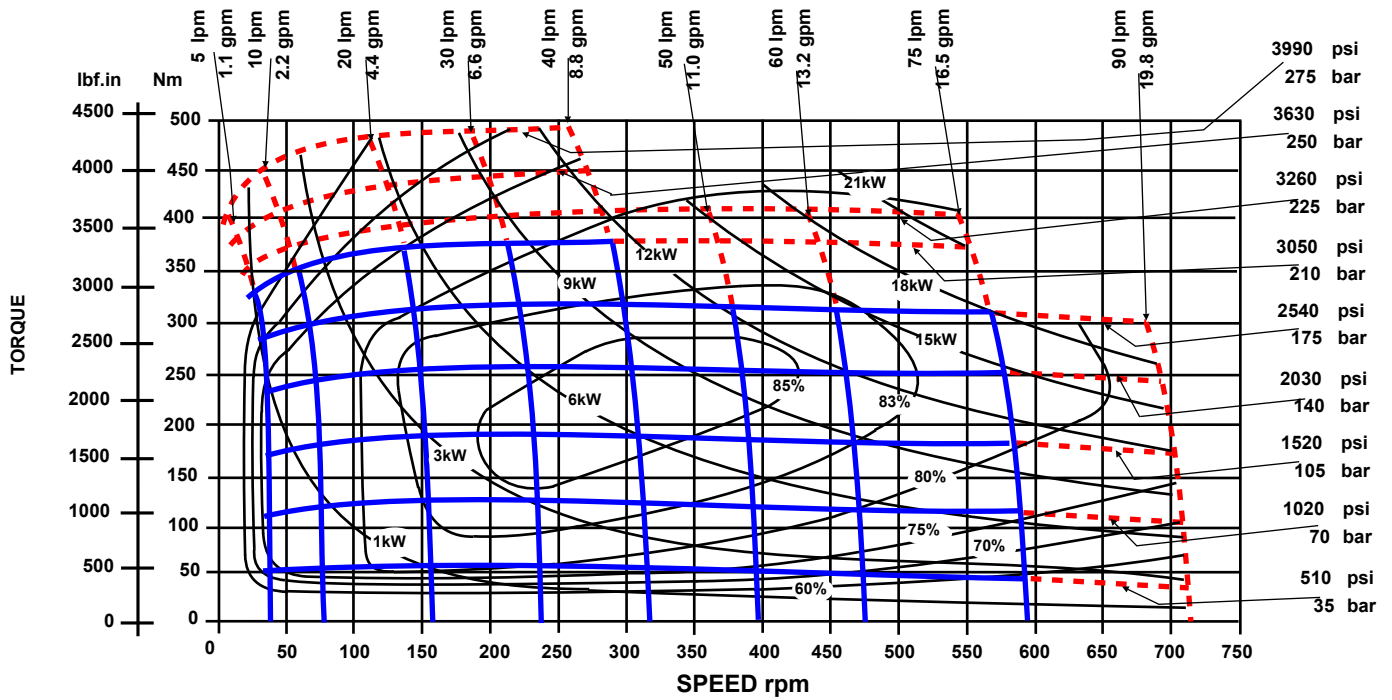
# PERFORMANCE GRAPHS 125 & 150 cc MS SERIES

Solid blue lines represent continuous operation. Dotted red lines represent intermittent operation permissible for 10% of every minute.

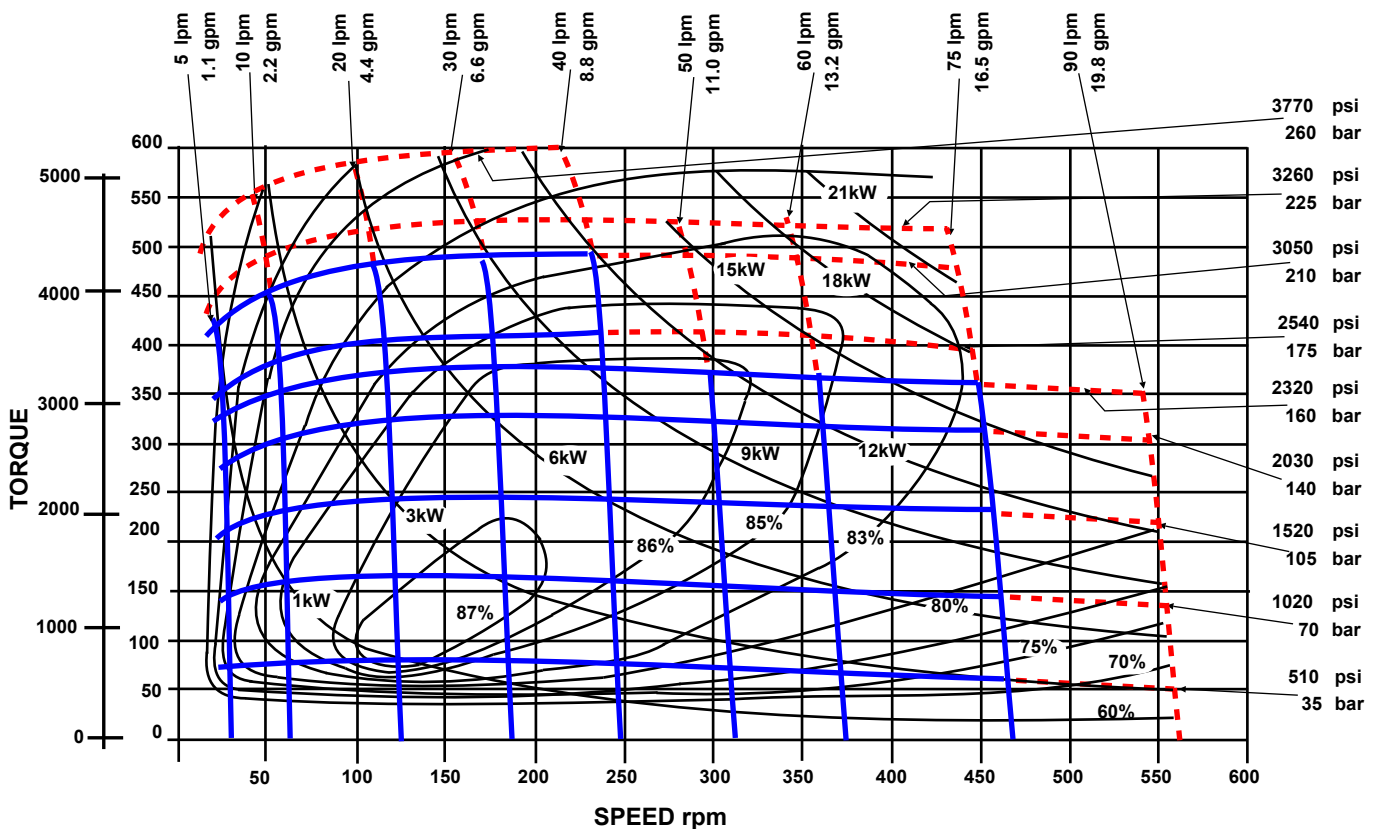
Maximum pressure drop and maximum speed must not occur simultaneously.

Maximum values are dependant on shaft type see note on page 5.

## MSA 125



## MSA 150





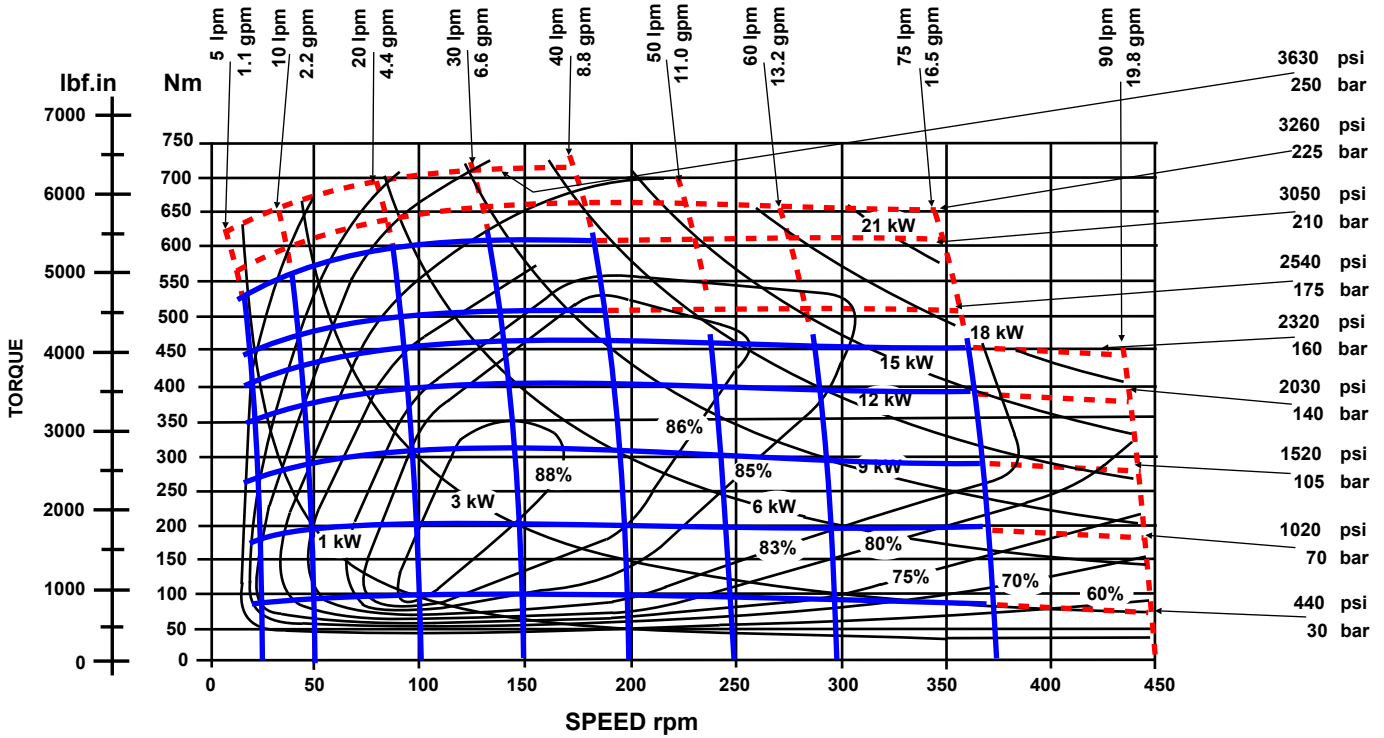
# PERFORMANCE GRAPHS 200 & 250 cc MS SERIES

Solid blue lines represent continuous operation. Dotted red lines represent intermittent operation permissible for 10% of every minute.

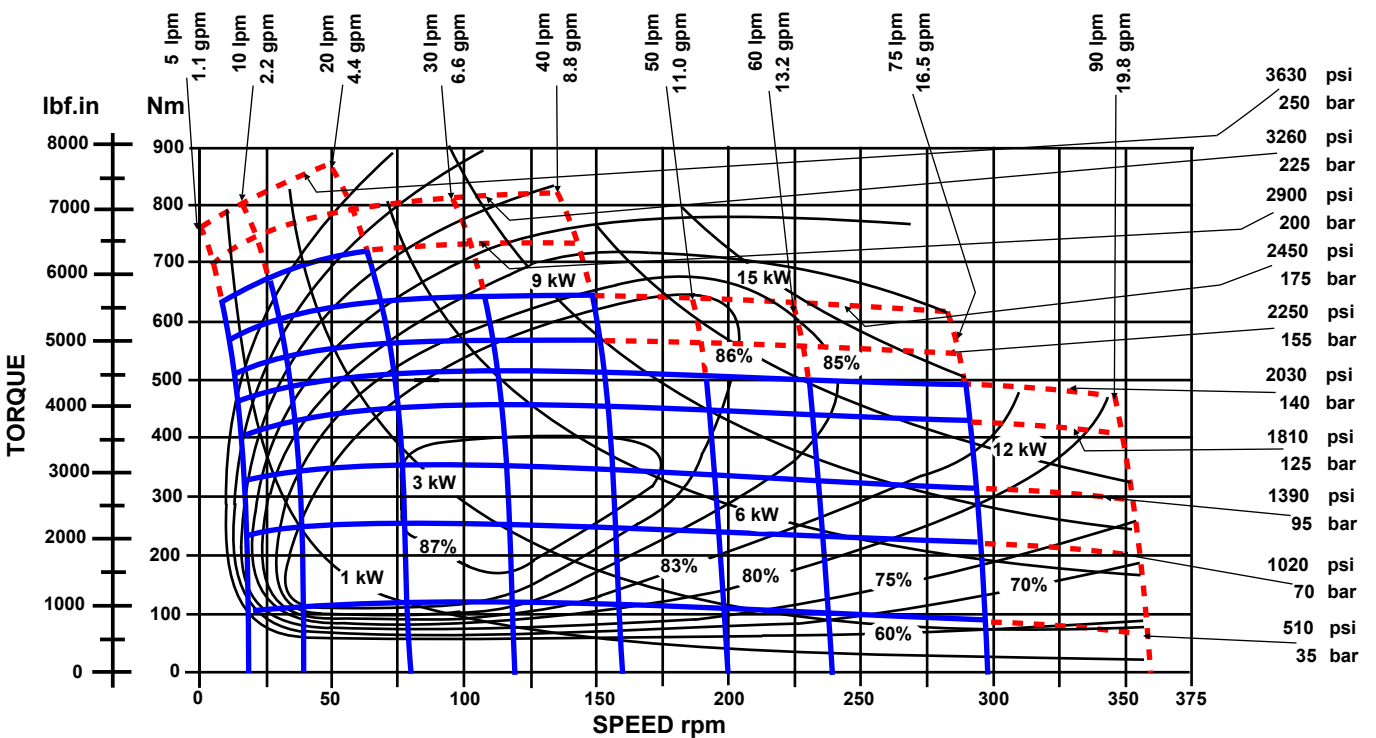
Maximum pressure drop and maximum speed must not occur simultaneously.

Maximum values are dependant on shaft type see note on page 5.

## MSA 200



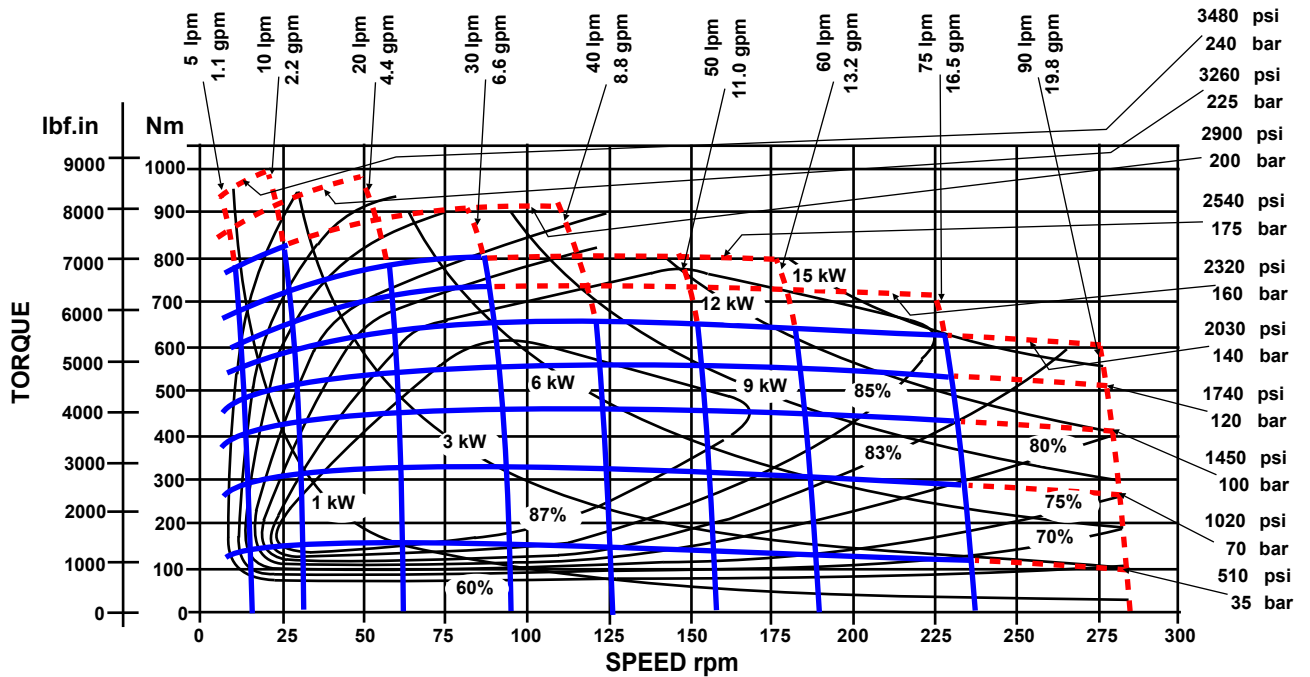
## MSA 250



# PERFORMANCE GRAPHS 300 & 400 cc MS SERIES

Solid blue lines represent continuous operation. Dotted red lines represent intermittent operation permissible for 10% of every minute. Maximum pressure drop and maximum speed must not occur simultaneously. Maximum values are dependant on shaft type see note on page 5.

## MSA 300



## MSA 400

