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- High performance and reliability
- Full compliance with latest international norms
- Wider applicable specification and higher performance-price ratio
- Better industrial models suitable for more application environment

KROM®

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» M SERIES PNEUMATIC ROTARY ACTUATOR

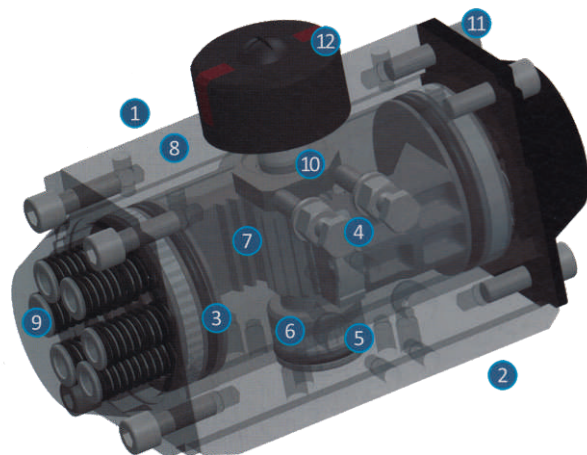


DESIGN AND CONSTRUCTION ➤

■ DESIGN

M series pneumatic actuators have introduced improvement design for rack. It is always Krom's mission to offer initiative products by combining the long field experiences in products application and the latest production and materials technology available in the market today. The benefit of new design has long been verified in practice. With new technical features equipped, M series pneumatic actuators have advantageous characteristics in:

- ★ Reliability
- ★ High performance
- ★ Fully compliance with all the latest international standards
- ★ Extensive products range allows best versatility at lower price
- ★ Innovations and patented solutions for a universal drive shaft
- ★ Multifunction position indicator
- ★ Compact and light



■ CONSTRUCTION

1. A single compact design utilizing identical body and end caps for both double acting and spring return models. This feature reduces inversion, by adding or removing modular spring cartridges.
2. Full conformance to following latest specifications: ISO 5211, DIN 3337 and VDI/VDE 3845 for product interchangeability and easy mounting of solenoids, limit switches and other accessories.
3. Krompiston rack and pinion design for compact construction, symmetric mounting position, high-cycle life and fast operation. Reverse rotation can be accomplished in the field by simply inverting the pistons.
4. Two independent external travel stop adjustments permit easy and precise adjustment of $\pm 5^\circ$ in both directions. This adjustment may be made in either the open or closed position and provides for accurate valve alignment.
5. Multiple bearings and guides on pistons and racks for precise operation, low friction, high cycle life and a blowout proof pinion shaft.
6. Electroless nickel-plated blowout resistant, bearing guided, one-piece pinion shaft for improved safety and maximum cycle life.
7. High precision teeth on piston racks and pinioning, low backlash, and maximum engagement resulting in overall efficient operation.
8. Extruded aluminum body with both internal and external corrosion protections having a honed cylinder surface for longer life and a lower coefficient of friction.
9. Modular preloaded spring cartridges designed with coated springs for simple range versatility, greater safety and corrosion resistance.
10. Selected high quality bearings and seals that provide a wide operating temperature range, low friction, and high cycle life.
11. Internal and external stainless steel fasteners for long term corrosion resistance.
12. Multifunctional position indicator for visual position indication, and a direct, easy, economical way to mount popular sensors.

RANGE OF OPTIONS, QUALITY MANUFACTURING, AND ACCESSORIES ➤

■ RANGE OF OPTIONS

- A. Stainless steel 304 or 316 drive shafts are available on request for all sizes no matter the type of corrosion protection selected.
- B. For extremely high or low temperature applications, all models may be equipped with FPM or Silicon O rings along with an Duria tested and certified suitable lubricant.
- C. Other than the standard double square bottom drive shaft connection, we can supply a keyed drive connection, a flat head connection or a special personalized drive connection.

■ ACCESSORIES AVAILABLE

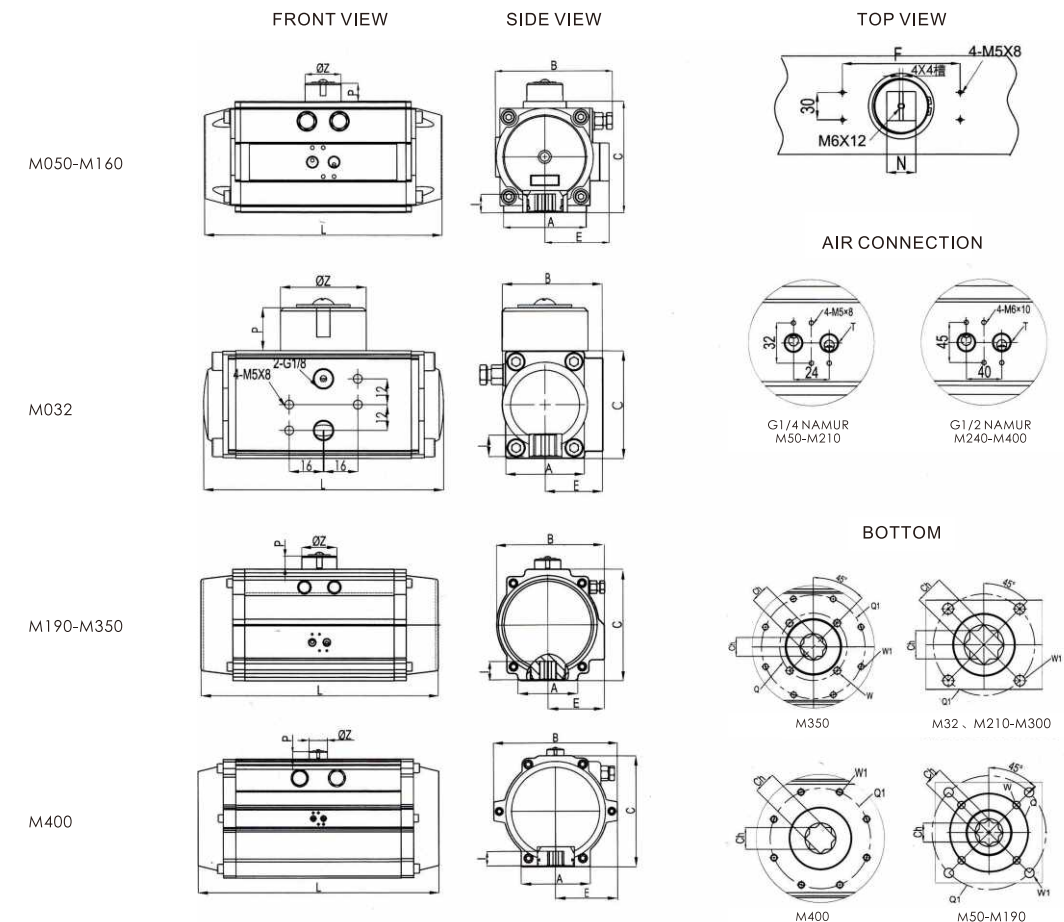
- ★ Different Square reductions suitable for drive shaft
- ★ Centering rings for all sizes
- ★ Brackets

■ QUALITY MANAGEMENT

- ★ Production conforms to ISO9001.
- ★ Each individual actuator has been factory inspected and tested and given a serial number for full traceability.
- ★ Each individual actuator is individually packed in a special cardboard carton for protection, with a product description label for easy identification and includes installation and maintenance instructions.

- ★ Couplings
- ★ Solenoid valves
- ★ Switch boxes
- ★ Proximity switches
- ★ Gear boxes
- ★ Positioners

INSTALLATION ➤

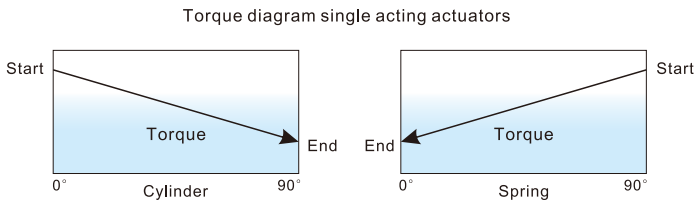
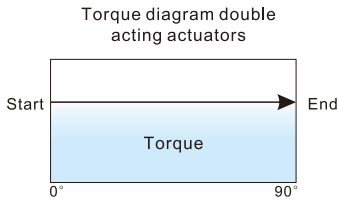


MODEL	A	B	C	L	E	F	P	ØZ	N	I	FLANGE	Q	Q1	W	W1	CH	T
M032	37	47	50	110	27	50	20	40	10	10	F03	-	36	-	M5×9	9×9	G1/8"
M050	45	70.5	70	154	41.5	80	20	40	10	12	F03/05	36	50	M5×7.5	M6×9	11×11	G1/4"
M065	62	89.5	89	189	51.5	80	20	40	10	16	F05/07	50	70	M6×9	M8×12	14×14	G1/4"
M075	68	102.5	100	210	59	80	20	40	14	16	F05/07	50	70	M6×9	M8×12	14×14	G1/4"
M085	68	112.5	113	229	63.5	80	20	40	14	19	F05/07	50	70	M6×9	M8×12	17×17	G1/4"
M095	92	126	123	264	71	80	20	40	14	19	F05/07	50	70	M6×9	M8×12	17×17	G1/4"
M110	93	138.5	136	266	76.5	80	20	40	14	19	F07/10	70	102	M8×12	M10×15	22×22	G1/4"
M125	96	157	161	337	85	80	30	56	22	25	F07/10	70	102	M8×12	M10×15	22×22	G1/4"
M140	110	178	178	377	97	80	30	56	22	31	F10/12	102	125	M10×15	M12×18	27×27	G1/4"
M160	112	196	200	412	106	130	30	56	22	31	F10/12	102	125	M10×15	M12×18	27×27	G1/4"
M190	136	216.5	232	488	112	130	30	56	22	41	F14	-	140	-	M16×24	36×36	G1/4"
M210	140	235.5	255	550	120	130	30	80	32	40	F14	-	140	-	M16×24	36×36	G1/4"
M240	159	262	292	602	131	130	30	80	32	50	F16	-	165	-	M20×28	46×46	G1/2"
M270	159	295	331	672	147.5	130	30	80	32	50	F16	-	165	-	M20×28	46×46	G1/2"
M300	180	335	354	784	173	130	30	80	32	50	F16	-	165	-	M20×28	46×46	G1/2"
M350	270	385	410	845	195	130	30	80	32	50	F16/F25	165	254	M20×28	M16×30	46×46	G1/2"
M400	290	520	466	956	260	130	30	80	32	60	F25	-	254	-	M16×30	55×55	G1/2"

METRIC TORQUE RATINGS ➤

SINGLE ACTING TORQUE RATINGS IN Nm																						
MODEL	Supply Pressure(Unit:bar)																				Spring stroke	
	2.5		3		3.5		4		4.5		5		5.5		6		7		8			
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	90°	0°
MS050 M05	5.1	3.4	6.9	5.3	8.8	7.2	10.7	9.0	12.5	0.9	14.4	12.8	16.3	14.6	18.1	16.5	21.9	20.2	25.6	23.9	5.2	3.5
MS050 M06	4.4	2.4	6.2	4.3	8.1	6.1	10.0	8.0	11.8	9.9	13.7	11.7	15.6	13.6	17.4	15.5	21.2	19.2	24.9	22.9	6.2	4.2
MS050 M07			5.5	3.2	7.4	5.1	9.3	7.0	11.1	8.8	13.0	10.7	14.9	12.6	16.7	14.4	20.5	18.2	24.2	21.9	7.2	4.9
MS050 M08					6.7	4.1	8.6	5.9	10.4	7.8	12.3	9.7	14.2	11.5	16.0	13.4	19.8	17.1	23.5	20.9	8.2	5.6
MS050 M09							7.9	4.9	9.7	6.8	11.6	8.6	13.5	10.5	15.3	12.4	19.1	16.1	22.8	19.8	9.3	6.3
MS050 M10									9.0	5.7	10.9	7.6	12.8	9.5	14.6	11.3	18.4	15.1	22.1	18.8	10.3	7.0
MS050 M11											10.2	6.6	12.1	8.4	13.9	10.3	17.7	14.0	21.4	17.8	11.3	7.7
MS050 M12													11.4	7.4	13.2	9.3	17.0	13.0	20.7	16.7	12.4	8.4
MS065 M05	8.7	4.3	12.5	8.1	16.3	11.9	20.0	15.6	23.8	19.4	27.6	23.2	31.4	27.0	35.2	30.8	42.7	38.3	50.3	45.9	13.1	8.7
MS065 M06	7.0	1.7	10.7	5.5	14.5	9.2	18.3	13.0	22.1	16.8	25.9	20.6	29.7	24.4	33.4	28.2	41.0	35.7	48.6	43.3	15.7	10.4
MS065 M07			9.0	2.8	12.8	6.6	16.6	10.4	20.4	14.2	24.1	18.0	27.9	21.8	31.7	25.5	39.3	33.1	46.8	40.7	18.3	12.2
MS065 M08					11.0	4.0	14.8	7.8	18.6	11.6	22.4	15.4	26.2	19.1	30.0	22.9	37.5	30.5	45.1	38.1	21.0	13.9
MS065 M09							13.1	5.2	16.9	9.0	20.7	12.7	24.4	16.5	28.2	20.3	35.8	27.9	43.4	35.4	23.6	15.7
MS065 M10									15.1	6.3	18.9	10.1	22.7	13.9	26.5	17.7	34.0	25.2	41.6	32.8	26.2	17.4
MS065 M11											17.2	7.5	21.0	11.3	24.7	15.1	32.3	22.6	39.9	30.2	28.8	19.1
MS065 M12													19.2	8.7	23.0	12.4	30.6	20.0	38.1	27.6	31.4	20.9
MS075 M05	16.3	10.2	22.2	16.0	28.1	21.9	34.0	27.8	39.8	33.7	45.7	39.6	51.6	45.4	57.5	51.3	69.2	63.1	81.0	74.8	16.9	10.7
MS075 M06	14.2	6.8	20.1	12.7	25.9	18.6	31.8	24.4	37.7	30.3	43.6	36.2	49.4	42.1	55.3	47.9	67.1	59.7	78.8	71.4	20.2	12.8
MS075 M07			17.9	9.3	23.8	15.2	29.7	21.1	35.6	26.9	41.4	32.8	47.3	38.7	53.2	44.6	64.9	56.3	76.7	68.1	23.6	15.0
MS075 M08					21.7	11.8	27.5	17.7	33.4	23.6	39.3	29.4	45.2	35.3	51.0	41.2	62.8	53.0	74.5	64.7	27.0	17.1
MS075 M09							25.4	14.3	31.3	20.2	37.1	26.1	43.0	32.0	48.9	37.8	60.7	49.6	72.4	61.3	30.3	19.3
MS075 M10									29.1	16.8	35.0	22.7	40.9	28.6	46.8	34.5	58.5	46.2	70.3	58.0	33.7	21.4
MS075 M11											32.9	19.3	38.7	25.2	44.6	31.1	56.4	42.8	68.1	54.6	37.1	23.5
MS075 M12													36.6	21.8	42.5	27.7	54.2	39.5	66.0	51.2	40.4	25.7
MS085 M05	23.2	13.7	31.8	22.3	40.4	30.9	49.0	39.5	57.6	48.1	66.3	56.8	74.9	65.4	83.5	74.0	100.8	91.3	118.0	108.5	26.1	16.6
MS085 M06	19.8	8.4	28.4	17.0	37.1	25.7	45.7	34.3	54.3	42.9	62.9	51.5	71.6	60.2	80.2	68.8	97.4	86.0	114.7	103.3	31.3	19.9
MS085 M07			25.1	11.8	33.8	20.5	42.4	29.1	51.0	37.7	59.6	46.3	68.3	55.0	76.9	63.6	94.1	80.8	111.4	98.1	36.5	23.2
MS085 M08					30.4	15.2	39.1	23.9	47.7	32.5	56.3	41.1	64.9	49.7	73.6	58.4	90.8	75.6	108.1	92.9	41.7	26.5
MS085 M09							35.8	18.7	44.4	27.3	53.0	35.9	61.6	44.5	70.3	53.2	87.5	70.4	104.8	87.7	46.9	29.8
MS085 M10									41.1	22.1	49.7	30.7	58.3	39.3	67.0	48.0	84.2	65.2	101.5	82.5	52.1	33.1
MS085 M11											46.4	25.5	55.0	34.1	63.6	42.7	80.9	60.0	98.1	77.2	57.3	36.4
MS085 M12													51.7	28.9	60.3	37.5	77.6	54.8	94.8	72.0	62.5	39.7
MS095 M05	33.6	20.9	45.8	33.0	57.9	45.1	70.0	57.3	82.1	69.4	94.3	81.5	106.4	93.6	118.5	105.8	142.7	130.0	167.0	154.2	34.9	22.1
MS095 M06	29.2	13.9	41.4	26.1	53.5	38.2	65.6	50.3	77.7	62.4	89.8	74.5	102.0	86.7	114.1	98.8	138.3	123.0	162.6	147.3	41.8	26.5
MS095 M07			36.9	19.1	49.1	31.2	61.2	43.3	73.3	55.4	85.4	67.6	97.5	79.7	109.7	91.8	133.9	116.1	158.1	140.3	48.8	30.9
MS095 M08					44.6	24.2	56.8	36.4	68.9	48.5	81.0	60.6	93.1	72.7	105.2	84.8	129.5	109.1	153.7	133.3	55.8	35.4
MS095 M09							52.3	29.4	64.5	41.5	76.6	53.6	88.7	65.8	100.8	77.9	125.1	102.1	149.3	126.4	62.7	39.8
MS095 M10									60.0	34.5	72.2	46.7	84.3	58.8	96.4	70.9	120.6	95.1	144.9	119.4	69.7	44.2
MS095 M11											67.7	39.7	79.9	51.8	92.0	63.9	116.2	88.2	140.5	112.4	76.7	48.6
MS095 M12													75.4	44.8	87.6	57.0	111.8	81.2	136.0	105.4	83.6	53.0
MS110 M05	43.4	26.2	60.7	43.4	76.4	59.1	92.0	74.8	107.7	90.4	123.4	106.1	139.0	121.8	154.7	137.4	186.0	168.8	217.3	200.1	45.9	28.6
MS110 M06	37.7	17.0	55.0	34.3	70.6	49.9	86.3	65.6	102.0	81.3	117.6	96.9	133.3	112.6	149.0	128.3	180.3	159.6	211.6	190.9	55.0	34.3
MS110 M07			49.3	25.1	64.9	40.8	80.6	56.4	96.2	72.1	111.9	87.8	127.6	103.4	143.2	119.1	174.6	150.4	205.9	181.8	64.2	40.0
MS110 M08					59.2	31.6	74.9	47.3	90.5	62.9	106.2	78.6	121.9	94.3	137.5	109.9	168.9	141.3	200.2	192.6	73.4	45.8
MS110 M09							69.1	38.1	84.8	53.8	100.5	69.4	116.1	85.1	131.8	100.8	163.1	132.1	194.5	163.4	82.5	51.5
MS110 M10									79.1	44.6	94.8	60.3	110.4	75.9	126.1	91.6	157.4	122.9	188.7	154.2	91.7	57.2
MS110 M11											89.0	51.1	104.7	66.7	120.4	82.4	151.7	113.7	183.0	145.1	100.9	62.9
MS110 M12													99.0	57.6	114.6	73.2	146.0	104.6	177.3	135.9	110.0	68.6

METRIC TORQUE RATINGS ➤



DOUBLE ACTING TORQUE RATINGS IN Nm										
MODEL	Supply Pressure(Unit:Kg)									
	2.5	3	3.5	4	4.5	5	5.5	6	7	8
MD032	2.9	3.4	4.0	4.6	5.3	5.9	6.5	7.1	8.3	9.5
MD050	8.6	10.4	12.3	14.2	16.0	17.9	19.8	21.6	25.4	29.1
MD065	17.4	21.2	25.0	28.7	32.5	36.3	40.1	43.9	51.4	59.0
MD075	27.0	32.9	38.8	44.7	50.5	56.4	62.3	68.2	79.9	91.7
MD085	39.7	48.3	56.9	65.6	74.2	82.8	91.4	100.1	117.3	134.6
MD095	55.7	67.9	80.0	92.1	104.2	116.4	128.5	140.6	164.8	189.1
MD110	72.0	89.3	105.0	120.6	136.3	152.0	167.6	183.3	214.6	245.9
MD125	128.7	159.5	187.5	215.4	243.4	271.4	299.4	327.4	383.3	439.3
MD140	196	237	278	319	360	401	442	483	565	647
MD160	263.5	326.6	383.9	441.2	498.5	555.8	613.1	670.4	785.0	899.7
MD190	428.5	518.0	607.3	696.6	785.9	875.3	964.6	1053.9	1232.5	1411.1
MD210	598.2	723.2	847.9	972.6	1097.3	1222.0	1346.6	1471.3	1720.7	1970.1
MD240	928.3	1122.0	1315.0	1508.0	1702.0	1895.0	2089.0	2282.0	2669.0	3056.0
MD270	1305.0	1577.0	1849.0	2121.0	2393.0	2665.0	2937.0	3209.0	3753.0	4297.0
MD300	1678.6	2029.4	2379.3	2729.2	3079.0	3429.0	3778.9	4128.8	4828.5	5528.3
MD350	2492.5	3011.8	3531.1	4050.4	4569.6	5088.9	5608.2	6127.5	7166.0	8204.6
MD400	3798.1	4589.4	5380.7	6172.0	6963.3	7754.5	8545.8	9337.1	10919.7	12502.2

SINGLE ACTING TORQUE RATINGS IN Nm																						
MODEL	Supply Pressure(Unit:Kg)																				Spring stroke	
	2.5		3		3.5		4		4.5		5		5.5		6		7		8			
	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°		
MS160 M05	153.5	101.3	216.6	164.4	273.9	221.7	331.2	279.0	388.8	336.3	445.5	393.6	503.1	450.9	560.4	508.2	675.0	622.8	789.7	737.4	162.3	110.0
MS160 M06	131.5	68.8			194.6	131.9	251.9	189.2	309.2	246.5	366.5	303.8	423.8	361.1	481.1	418.4	538.4	475.7	653.0	590.3	767.7	132.0
MS160 M07			172.6	99.5		229.9	156.8	287.2	214.1	344.5	271.4	401.8	328.7	459.1	386.0	516.4	443.3	631.0	557.9	745.7	672.5	154.0
MS160 M08						207.9	124.3	265.2	181.6	322.5	238.9	379.8	296.2	437.1	353.5	494.4	410.8	609.0	525.4	723.7	640.1	176.0
MS160 M09								243.2	149.2	300.5	206.5	357.8	263.8	415.1	321.1	472.4	378.4	587.0	493.0	701.7	607.6	198.0
MS160 M10										278.5	174.0	335.8	231.3	393.1	288.6	450.4	345.9	565.0	460.5	679.7	575.2	220.0
MS160 M11												313.8	198.9	371.1	256.2	428.4	313.5	543.0	428.1	657.7	542.7	242.0
MS160 M12														349.1	223.7	406.4	281.0	521.0	395.6	635.7	510.3	264.0
MS190 M05	246.8	167.4	336.3	256.9	425.6	346.2	514.9	435.5	604.2	524.8	693.5	614.1									261.2	181.8
MS190 M06	210.4	115.1	299.9	204.6	389.2	293.9	478.5	383.3	567.8	472.6	657.2	561.9	746.5	651.2							313.4	218.1
MS190 M07			263.6	152.4	352.9	241.7	442.2	331.0	531.5	420.3	620.8	509.6	710.1	599.0	799.4	688.3					365.6	254.5
MS190 M08						316.5	189.5	405.8	278.7	495.1	368.1	584.5	457.4	673.8	546.7	779.5	636.0	941.7	814.7		417.8	290.8
MS190 M09								369.5	226.6	458.8	315.9	548.1	405.2	637.4	494.5	745.2	583.8	905.3	762.4	1084.0	941.1	327.2
MS190 M10										422.4	263.6	511.8	353.0	601.1	442.3	710.9	531.6	869.0	710.2	1047.6	888.8	363.5
MS190 M11												475.4	300.7	564.7	390.0	676.6	479.3	832.6	658.0	1011.3	836.6	399.9
MS190 M12															528.4	337.8	642.3	427.1	796.3	605.7	974.9	436.8
MS210 M05	352.8	239.1	477.8	364.1	602.5	488.8	727.2	613.5	851.9	738.2	976.6	862.9	1101.2	987.5	1225.9	1112.2	1475.3	1361.6	1724.7	1611.0	359.1	245.4
MS210 M06	303.7	167.3	428.7	292.3	553.4	417.0	678.1	541.7	802.8	666.4	927.5	791.0	1052.2	915.7	1176.9	1040.4	1426.2	1289.8	1675.6	1539.2	430.9	294.5
MS210 M07			379.6	220.5	504.3	345.2	629.0	469.8	753.7	594.5	878.4	719.2	1003.1	843.9	1127.8	968.6	1377.2	1218.0	1626.5	1467.4	502.7	343.6
MS210 M08					455.3	273.3		579.9	398.0	704.6	522.7	829.3	647.4	954.0	772.1	1078.7	896.8	1328.1	1146.2	1577.5	1395.5	392.6
MS210 M09							530.9	326.2	655.6	450.9	780.2	575.6	904.9	700.3	1029.6	825.0	1279.0	1074.3	1528.4	1323.7	646.4	441.7
MS210 M10									606.5	379.1	731.2	503.8	855.8	628.4	980.5	753.1	1229.9	1002.5	1479.3	1251.9	718.2	490.8
MS210 M11											682.1	431.9	806.8	556.6	931.5	681.3	1180.8	930.7	1430.2	1180.1	790.0	539.9
MS210 M12														757.7	484.8	882.4	609.5	1131.8	858.9	1381.1	1108.3	589.0
MS240 M05	517.8	374.3	711.2	567.7	904.6	761.1	1098.0	954.5	1291.4	1147.9	1484.8	1341.3									554.0	410.5
MS240 M06	435.7	263.5	629.1	456.9	822.5	650.3	1015.9	843.7	1209.3	1037.1	1402.7	1230.5	1596.1	1423.9							664.8	492.6
MS240 M07			547.0	346.1	740.4	539.5	933.8	732.9	1127.2	926.3	1320.6	1119.7	1514.0	1313.1	1707.4	1506.5					775.6	574.7
MS240 M08					658.3	428.7	851.7	622.1	1045.1	815.5	1238.5	1008.9	1431.9	1202.3	1625.3	1395.7	2012.1	1782.5			886.4	656.8
MS240 M09							769.6	511.3	963.0	704.7	1156.4	898.1	1349.8	1091.5	1543.2	1284.9	1930.0	1671.7	2316.8	2058.5	997.2	738.9
MS240 M10									880.9	593.9	1074.3	787.3	1267.7	980.7	1461.1	1174.1	1847.9	1560.9	2234.7	1947.7	1108.0	821.0
MS240 M11											992.2	676.5	1185.6	869.9	1379.0	1063.3	1765.8	1450.1	2152.6	1836.9	1218.8	903.1
MS240 M12													1103.5	759.1	1296.9	952.5	1683.7	1339.3	2070.5	1726.1	1329.6	985.2
MS270 M05	745.9	519.4	1017.9	791.4	1289.9	1063.4	1561.8	1335.3	1833.8	1607.3	2105.7	1879.2									786.0	559.5
MS270 M06	634.0	362.2	906.0	634.2	1178.0	906.2	1449.9	1178.1	1721.9	1450.1	1993.8	1722.0	2265.8	1994.0							943.2	671.4
MS270 M07			794.1	477.0	1166.1	749.0	1338.0	1020.9	1610.0	1292.9	1881.9	1564.8	2153.9	1836.8	2425.9	2108.8					1100.4	783.3
MS270 M08					954.2	591.8	1226.1	863.7	1498.1	1135.7	1770.0	1407.6	2042.0	1679.6	2314.0	1951.6	2857.9	2495.5			1257.6	895.2
MS270 M09							1114.2	706.5	1386.2	978.5	1658.1	1250.4	1930.1	1522.4	2202.1	1794.4	2746.0	2338.3	3289.9	2882.2	1414.8	1007.1
MS270 M10									1274.3	821.3	1546.2	1093.2	1818.2	1365.2	2090.2	1637.2	2634.1	2181.1	3178.0	2725.0	1572.0	1119.0
MS270 M11											1434.3	936.0	1706.3	1208.0	1978.3	1480.0	2522.2	2023.9	3066.1	2567.8	1729.2	1230.9
MS270 M12													1594.4	1050.8	1866.4	1322.8	2410.3	1866.7	2954.2	2410.6	1886.4	1342.8
MS300 M05	987.5	646.7	1338.3	997.5	1688.2	1347.4	2038.1	1697.3	2388.0	2047.2	2737.9	2397.1	3087.8	2747.0	3437.7	3096.9	4137.4	3796.6	4837.2	4496.4	1031.9	691.1
MS300 M06	849.3	440.3	1200.1	791.1	1550.0	1141.0	1899.9	1490.9	2249.8	1840.8	2599.6	2190.7	2949.5	2540.6	3299.4	2890.5	3999.2	3590.3	4699.0	4290.1	1238.3	829.3
MS300 M07			1061.9	584.7	1411.7	934.6	1761.6	1284.5	2111.5	1634.4	2461.4	1984.3	2811.3	2334.2	3161.2	2684.1	3861.0	3383.9	4560.8	4083.7	1444.7	967.5
MS300 M08					1273.5	728.2	1623.4	1078.1	1973.3	1428.0	2323.2	1777.9	2673.1	2127.8	3023.0	2477.7	3722.8	3177.5	4422.6	3877.3	1651.0	1105.8
MS300 M09							1485.2	871.8	1835.1	1221.7	2185.0	1571.5	2534.9	1921.4	2884.8	2271.3	3584.6	2971.1	4284.4	3670.9	1857.4	1244.0
MS300 M10									1696.9	1015.3	2046.8	1365.2	2396.7	1715.1	2746.6	2065.0	3446.3	2764.7	4146.1	3464.5	2063.8	1382.2
MS300 M11											1908.5	1158.8	2258.4	1508.7	2608.3	1858.6	3308.1	2558.4	4007.9	3258.2	2270.2	1520.4
MS300 M12													2120.2	1302.3	2470.1	1652.2	3169.9	2352.0	3869.7	3051.8	2476.6	1658.6
MS350 M05	1498.2	1017.1	2017.5	1536.4	2536.8	2055.6	3056.1	2574.9	3575.3	3094.2	4094.6	3613.5	4613.9	4132.7	5133.2	4652.0	6171.7	5690.6	7210.3	6729.1	1475.5	994.3
MS350 M06			1818.6	1241.3	2337.9	1960.5	2857.2	2279.8	3376.5	2799.1	3895.8	3318.4	4415.0	3837.7	4934.3	4356.9	5972.9	5395.5	7011.4	6434.0	1770.5	1193.2
MS350 M07			1619.8	946.2	2139.1	1465.5	2658.3	1984.7	3177.6	2504.0	3696.9	3023.3	4216.2	3542.6	4735.5	4061.8	5774.0	5100.4	6812.6	6139.0	2065.6	1392.0
MS350 M08					1940.2																	