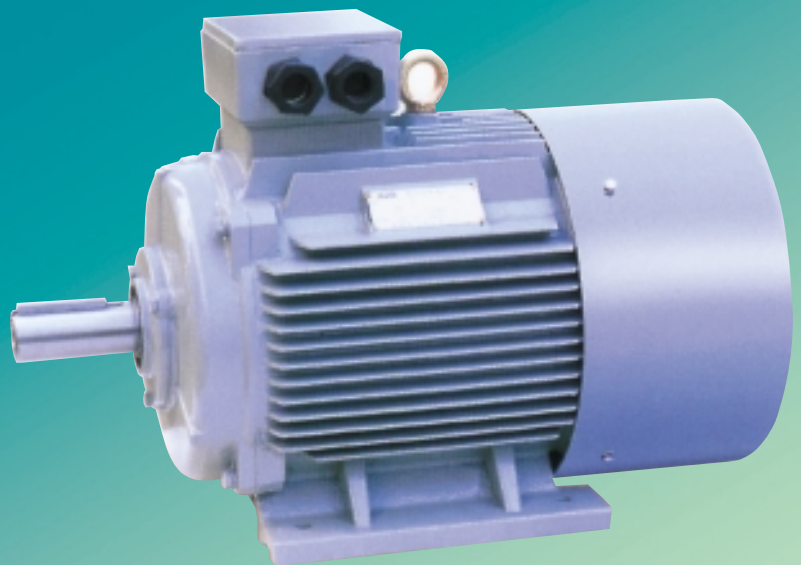




ARAGON  
MOTORS

**Three  
Phase  
Induction  
Motors**



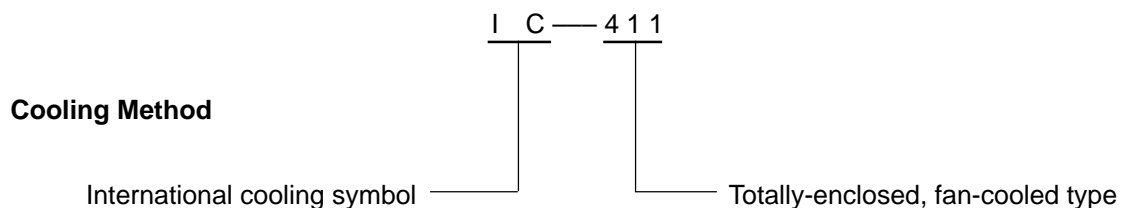
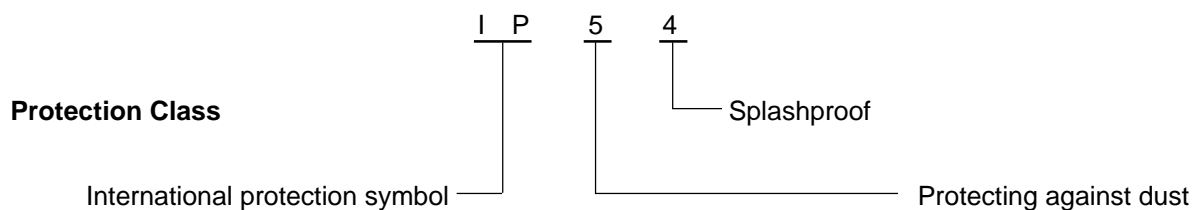
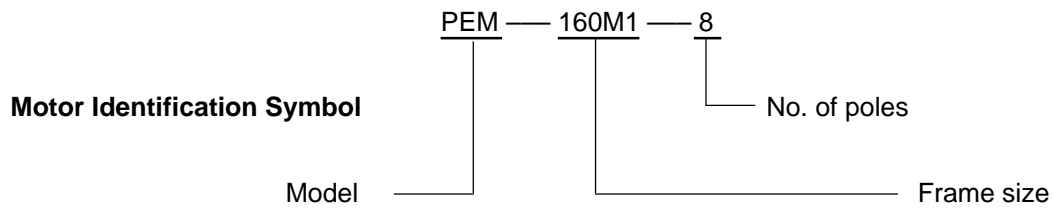
## Introduction

PEM series motors are defined as totally enclosed, fancooled, squirrel cage type and noted for their novel design, beautiful modelling, compact structure, low noise, high efficiency, large torque, excellent starting performance and easy serving.....etc

The motors are adopted with F class insulation and designed with assessing method for insulation system according to international practice, it enhances greatly motor's safety and reliability. Therefore, these motors have reached an international advanced level of such kind of products at the initial days of the 90s.

PEM series motors can be widely used as driving equipment of various machineries, such as machine tools, blowers, pumps, compressors, transporters, agricultural and food processing. The three phase motors are available in frame size 63-355L and have rated outputs ranging from 0.18kw - 315kw.

## Designation



## Operating Conditions

Ambient temperature	: -15°C ≤ 0 ≤ 40°C.
Altitude	: Altitude should be lower than 1000 meters above sea level.
Rated voltage	: 380V.
Rated frequency	: 50Hz.
Connection	: Star-connection for 3KW or less whereas delta-connection for 4KW or more.
Duty/Rating	: Continuous(S1).
Insulation class	: F the temperature rise of the stator winding is examined at 80K (by resistance method).
Protection class	: The main body of the motor is IP54, but the terminal box reaches IP55.
Cooling method	: IC411.

## Introduction of structure

This series motors amount to the fifteenth frame sizes. Among of them, the frames and end-shields of the frame size from 63 to 132 are made of cast iron or aluminium-alloy, and the frames of 160 or over are made of cast iron with sufficient mechanical strength. All cooling ribs of motors assume vertical or horizontal distribution. So, the motor entirely looks very beautiful.

The terminal boxes are made of cast iron or aluminium-alloy die-casting for frame size 63 up to 280 or high strength cast iron for 315 up to 355 and located on the top of a side of the motor for offering users choice.

### Main data for terminal box

Classified No.	Frame size	Max. F. L. Amps	Entry hole size
			International standard
1	63~80	2.6	1XM20X1.5
2	90~100	6.8	1XM25X1.5
3	112~132	15.4	2XM32X1.5
4	160~180	42.5	2XM40X1.5
5	200~225	84.2	2XM50X1.5
6	250~280	166.6	2XM63X1.5
7	315	358	2XM63X1.5
8	355	546	2XM63X1.5

The fans are generally made of strengthen plastics other than that for frame sizes 315 up to 355 are made of aluminium-alloy or stamped with steel plate. All fan-cools are taken into shape by stretching with cold rolled steel plate to become high mechanical strength.

## Mounting Arrangement

The mounting arrangements of the motors comply with IEC34-7 recommendation. There are four basic arrangements shown as the following tables and figures.

Fundamental arrangement	B3					
Mounting arrangement	B3	B6	B7	B8	V5	V6
Diagram						
Range of manufacture (frame size)	63-355			63-160		

Fundamental arrangement	B5			B35		
Mounting arrangement	B5	V1	V3	B35	V15	V36
Diagram						
Range of manufacture (frame size)	63-280	63-355	63-160	63-355	63-160	

Fundamental arrangement	B5		
Mounting arrangement	B5	B35	V36
Diagram			
Range of manufacture (frame size)	63-112		

**Technical Data**
**380V, 50Hz, 2-pole**

Output KW	Type	Amps A	Speed r/min	Eff. %	P.F.	RT N.m	$\frac{LRT}{RLT}$	$\frac{BDT}{RTL}$	$\frac{LRA}{RLA}$	Noise $L_w$ dB(A)	Weight kg
0.18	PEM-631-2	0.5	2800	65.0	0.80	0.61	2.2	2.2	5.5	61	14
0.25	PEM-632-2	0.7	2800	68.0	0.81	0.96	2.2	2.2	5.5	61	14.5
0.37	PEM-711-2	1.0	2800	70.0	0.81	1.26	2.2	2.2	6.1	64	15
0.55	PEM-712-2	1.4	2800	73.0	0.82	1.88	2.2	2.3	6.1	64	15.5
0.75	PEM-801-2	1.8	2825	75.0	0.83	2.54	2.2	2.3	6.1	67	16.5
1.1	PEM-802-2	2.6	2825	77.0	0.84	3.72	2.2	2.3	7.0	67	17.5
1.5	PEM-90S-2	3.4	2840	79.0	0.84	5.04	2.2	2.3	7.0	72	21
2.2	PEM-90L-2	4.9	2840	81.0	0.85	7.40	2.2	2.3	7.0	72	25
3	PEM-100L-2	6.3	2880	83.0	0.87	9.95	2.2	2.3	7.5	76	33
4	PEM-112M-2	8.1	2890	85.0	0.88	13.22	2.2	2.3	7.5	77	41
5.5	PEM-132S1-2	11.0	2900	86.0	0.88	18.11	2.2	2.3	7.5	80	63
7.5	PEM-132S2-2	14.9	2900	87.0	0.88	24.70	2.2	2.3	7.5	80	70
11	PEM-160M1-2	21.3	2930	88.0	0.89	35.85	2.2	2.3	7.5	86	110
15	PEM-160M2-2	28.8	2930	89.0	0.89	48.89	2.2	2.3	7.5	86	120
18.5	PEM-160L-2	34.7	2930	90.0	0.90	60.30	2.2	2.3	7.5	86	135
22	PEM-180M-2	41.0	2940	90.5	0.90	71.46	2.0	2.3	7.5	89	165
30	PEM-200L1-2	55.5	2950	91.2	0.90	97.12	2.0	2.3	7.5	92	218
37	PEM-200L2-2	67.9	2950	92.0	0.90	119.78	2.0	2.3	7.5	92	230
45	PEM-225M-2	82.3	2970	92.3	0.90	144.70	2.0	2.3	7.5	92	280
55	PEM-250M-2	100.4	2970	92.5	0.90	176.85	2.0	2.3	7.5	93	365
75	PEM-280S-2	134.4	2970	93.2	0.91	241.16	2.0	2.3	7.5	94	495
90	PEM-280M-2	160.2	2970	93.8	0.91	289.39	2.0	2.3	7.5	94	565
110	PEM-315S-2	195.4	2980	94.0	0.91	352.51	1.8	2.2	7.1	96	890
132	PEM-315M-2	233.2	2980	94.5	0.91	423.02	1.8	2.2	7.1	96	980
160	PEM-315L1-2	279.3	2980	94.6	0.92	512.75	1.8	2.2	7.1	99	1055
200	PEM-315L2-2	348.4	2980	94.8	0.92	640.94	1.8	2.2	7.1	99	1110
250	PEM-355M-2	433.2	2985	95.3	0.92	799.83	1.6	2.2	7.1	103	1900
315	PEM-355L-2	544.2	2985	95.6	0.92	1007.79	1.6	2.2	7.1	103	2300

**Technical Data**
**380V, 50Hz, 4-pole**

Output KW	Type	Amps A	Speed r/min	Eff. %	P.F.	RT N.m	LRT RLT	BDT RTL	LRA RLA	Noise L <sub>w</sub> dB(A)	Weight kg
0.12	PEM-631-4	0.4	1400	57.0	0.72	0.82	2.1	2.2	4.4	52	13
0.18	PEM-632-4	0.6	1400	60.0	0.73	1.23	2.1	2.2	4.4	52	13.5
0.25	PEM-711-4	0.8	1400	65.0	0.74	1.71	2.1	2.2	5.2	55	14
0.37	PEM-712-4	1.1	1400	67.0	0.75	2.54	2.1	2.2	5.2	55	14.5
0.55	PEM-801-4	1.6	1390	71.0	0.75	3.78	2.4	2.3	5.2	58	15
0.75	PEM-802-4	2.0	1390	73.0	0.77	5.15	2.4	2.3	6.0	58	16
1.1	PEM-90S-4	2.9	1400	75.0	0.77	7.50	2.3	2.3	6.0	61	23
1.5	PEM-90L-4	3.7	1400	78.0	0.79	10.23	2.3	2.3	6.0	61	25
2.2	PEM-100L1-4	5.2	1420	80.0	0.81	14.80	2.3	2.3	7.0	64	33
3	PEM-100L2-4	6.8	1420	82.0	0.82	20.18	2.3	2.3	7.0	64	35
4	PEM-112M-4	8.8	1440	84.0	0.82	26.53	2.3	2.3	7.0	65	41
5.5	PEM-132S-4	11.8	1440	85.0	0.83	36.48	2.3	2.3	7.0	71	65
7.5	PEM-132M-4	15.6	1440	87.0	0.84	49.74	2.3	2.3	7.0	71	76
11	PEM-160M-4	22.3	1460	88.0	0.85	71.59	2.2	2.3	7.0	75	118
15	PEM-160L-4	30.1	1460	89.0	0.85	98.12	2.2	2.3	7.5	75	132
18.5	PEM-180M-4	36.5	1470	90.5	0.85	120.19	2.2	2.3	7.5	76	164
22	PEM-180L-4	43.2	1470	91.0	0.85	142.93	2.2	2.3	7.5	76	182
30	PEM-200L-4	57.6	1480	92.0	0.86	160.96	2.2	2.3	7.2	79	245
37	PEM-225S-4	69.9	1480	92.5	0.87	198.51	2.2	2.3	7.2	81	258
45	PEM-225M-4	84.7	1480	92.8	0.87	290.37	2.2	2.3	7.2	81	290
55	PEM-250M-4	103.3	1480	93.0	0.87	354.90	2.2	2.3	7.2	83	388
75	PEM-280S-4	139.6	1480	93.8	0.87	483.95	2.2	2.3	7.2	86	510
90	PEM-280M-4	166.9	1485	94.2	0.87	578.79	2.2	2.3	7.2	86	606
110	PEM-315S-4	201.0	1485	94.5	0.88	707.41	2.1	2.2	6.9	93	910
132	PEM-315M-4	240.4	1485	94.8	0.88	848.89	2.1	2.2	6.9	93	1000
160	PEM-315L1-4	287.8	1485	94.9	0.89	1028.96	2.1	2.2	6.9	97	1055
200	PEM-315L2-4	359.4	1485	95.0	0.89	1286.20	2.1	2.2	6.9	97	1128
250	PEM-355M-4	442.9	1490	95.3	0.90	1602.35	2.1	2.2	6.9	101	1700
315	PEM-355L-4	556.2	1490	95.6	0.90	2018.96	2.1	2.2	6.9	101	1900

**380V, 50Hz, 6-pole**

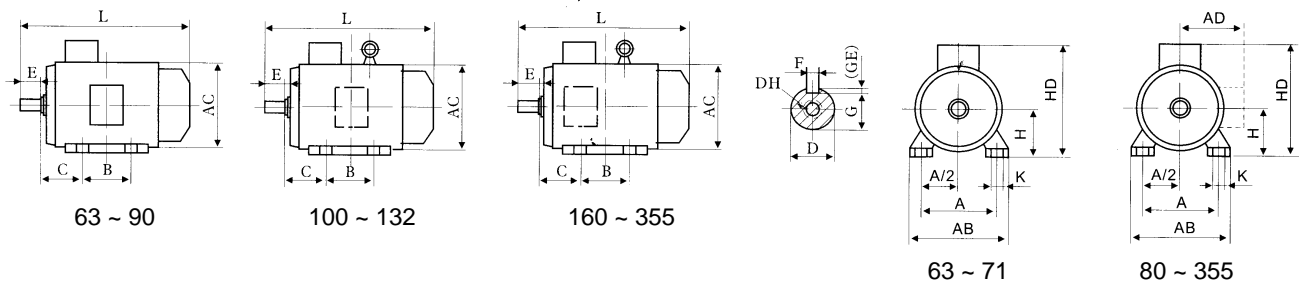
0.18	PEM-711-6	0.8	900	56.0	0.66	1.91	1.9	2.0	4.0	52	14
0.25	PEM-712-6	0.9	900	59.0	0.68	2.65	1.9	2.0	4.0	52	14.5
0.37	PEM-801-6	1.3	900	62.0	0.70	3.93	1.9	2.0	4.7	54	15
0.55	PEM-802-6	1.8	900	65.0	0.72	5.84	1.9	2.1	4.7	54	16
0.75	PEM-90S-6	2.3	910	69.0	0.72	7.87	2.0	2.1	5.5	57	19
1.1	PEM-90L-6	3.2	910	72.0	0.73	11.54	2.0	2.1	5.5	57	22
1.5	PEM-100L-6	3.9	940	76.0	0.76	15.24	2.0	2.1	5.5	61	32
2.2	PEM-112M-6	5.6	940	79.0	0.76	22.35	2.1	2.1	6.5	65	41
3	PEM-132S-6	7.4	960	81.0	0.76	29.84	2.1	2.1	6.5	69	63
4	PEM-132M1-6	9.9	960	82.0	0.76	39.79	2.1	2.1	6.5	69	72
5.5	PEM-132M2-6	12.9	960	84.0	0.77	54.71	2.1	2.1	6.5	69	81
7.5	PEM-160M-6	16.9	970	86.0	0.78	73.84	2.0	2.1	6.5	73	118
11	PEM-160L-6	24.2	970	87.5	0.79	108.30	2.0	2.1	6.5	73	145
15	PEM-180L-6	31.6	970	89.0	0.81	147.68	2.1	2.1	7.0	73	178
18.5	PEM-200L1-6	38.6	970	90.0	0.81	182.14	2.1	2.1	7.0	76	200
22	PEM-200L2-6	44.7	970	90.0	0.83	216.60	2.1	2.1	7.0	76	228
30	PEM-225M-6	59.3	980	91.5	0.84	292.35	2.0	2.1	7.0	76	265
37	PEM-250M-6	71.1	980	92.0	0.86	360.56	2.1	2.1	7.0	78	370
45	PEM-280S-6	85.9	980	92.5	0.86	438.52	2.1	2.0	7.0	80	490
55	PEM-280M-6	104.7	980	92.8	0.86	535.97	2.1	2.0	7.0	80	540
75	PEM-315S-6	141.7	980	93.5	0.86	730.87	2.0	2.0	7.0	85	900
90	PEM-315M-6	169.5	985	93.8	0.86	872.59	2.0	2.0	7.0	85	980
110	PEM-315L1-6	206.7	985	94.0	0.86	1066.50	2.0	2.0	6.7	85	1045
132	PEM-315L2-6	244.7	985	94.2	0.87	1279.80	2.0	2.0	6.7	85	1100
160	PEM-355M1-6	292.3	990	94.5	0.88	1543.43	1.9	2.0	6.7	92	1550
200	PEM-355M2-6	364.6	990	94.7	0.88	1929.29	1.9	2.0	6.7	92	1600
250	PEM-355L-6	454.8	990	94.9	0.88	2411.62	1.9	2.0	6.7	92	1700

**Technical Data**
**380V, 50Hz, 8-pole**

Output KW	Type	Amps A	Speed r/min	Eff. %	P.F.	RT N.m	$\frac{LRT}{RLT}$	$\frac{BDT}{RTL}$	$\frac{LRA}{RLA}$	Noise $L_w$ dB(A)	Weight kg
0.18	PEM-801-8	0.9	690	51.0	0.61	2.49	1.8	1.9	3.3	52	16
0.25	PEM-802-8	1.2	690	54.0	0.61	3.46	1.8	1.9	3.3	52	18
0.37	PEM-90S-8	1.5	690	62.0	0.61	5.12	1.8	1.9	4.0	56	22
0.55	PEM-90L-8	2.2	690	63.0	0.61	7.61	1.8	2.0	4.0	56	24
0.75	PEM-100L1-8	2.4	700	71.0	0.67	10.23	1.8	2.0	4.0	59	30
1.1	PEM-100L2-8	3.3	700	73.0	0.69	15.00	1.8	2.0	5.0	59	32
1.5	PEM-112M-8	4.4	700	75.0	0.68	20.46	1.8	2.0	5.0	61	40
2.2	PEM-132S-8	6.0	710	78.0	0.71	29.59	1.8	2.0	6.0	64	64
3	PEM-132M-8	7.9	710	79.0	0.73	40.35	1.8	2.0	6.0	64	78
4	PEM-160M1-8	10.3	720	81.0	0.73	53.06	1.9	2.0	6.0	68	105
5.5	PEM-160M2-8	13.6	720	83.0	0.74	72.59	2.0	2.0	6.0	68	115
7.5	PEM-160L-8	17.8	720	85.5	0.75	99.50	2.0	2.0	6.0	68	145
11	PEM-180L-8	25.1	730	87.5	0.76	143.90	2.0	2.0	6.6	70	160
15	PEM-200L-8	34.1	730	88.0	0.76	196.23	2.0	2.0	6.6	73	228
18.5	PEM-225S-8	41.1	730	90.0	0.76	242.02	1.9	2.0	6.6	73	242
22	PEM-225M-8	47.5	730	90.5	0.78	287.81	1.9	2.0	6.6	73	265
30	PEM-250M-8	63.4	730	91.0	0.79	392.47	1.9	2.0	6.6	75	368
37	PEM-280S-8	77.8	730	91.5	0.79	484.04	1.9	2.0	6.6	76	472
45	PEM-280M-8	94.1	740	92.0	0.79	580.74	1.8	2.0	6.6	76	538
55	PEM-315S-8	111.2	740	92.8	0.81	709.80	1.8	2.0	6.6	82	900
75	PEM-315M-8	151.3	740	93.0	0.81	967.91	1.8	2.0	6.6	82	1000
90	PEM-315L1-8	177.8	740	93.8	0.82	1161.49	1.8	2.0	6.6	82	1055
110	PEM-315L2-8	216.8	740	94.0	0.82	1419.60	1.8	2.0	6.4	82	1118
132	PEM-355M1-8	261.0	745	93.7	0.82	1692.08	1.8	2.0	6.4	90	2000
160	PEM-355M2-8	314.7	745	94.2	0.82	2051.00	1.8	2.0	6.4	90	2150
200	PEM-355L-8	387.4	745	94.5	0.83	2563.38	1.8	2.0	6.4	90	2250

**380V, 50Hz, 10-pole**

45	PEM-315S-10	99.6	590	91.5	0.75	728.39	1.5	2.0	6.2	82	818
55	PEM-315M-10	121.1	590	92.0	0.75	890.25	1.5	2.0	6.2	82	928
75	PEM-315L1-10	162.1	590	92.5	0.76	1213.98	1.5	2.0	6.2	82	1080
90	PEM-315L2-10	191.0	590	93.0	0.77	1456.78	1.5	2.0	6.2	82	1200
110	PEM-355M1-10	229.9	595	93.2	0.78	1765.55	1.3	2.0	6.0	90	1800
132	PEM-355M2-10	275.0	595	93.5	0.78	2118.66	1.3	2.0	6.0	90	2000
160	PEM-355L-10	333.3	595	93.5	0.78	2568.07	1.3	2.0	6.0	90	2500


**Frame with feet and endshield without flange**

Frame size	Poles	Mounting dimensions										Overall dimensions																					
		A	A/2	B	C	D	E	F	G	H	K	AB	AC	AD	HD	L	DH																
63	2, 4	100	50	80	40	11	23	4	8.5	63	7	135	130	70	180	230	M4X12																
71	2, 4, 6	112	56	90	45	14	30	5	11	71		150	145	80	195	255	M5X12																
80	2, 4, 6, 8	125	62.5	100	50	19	40	6	15.5	80	10	165	175	145	220	295	M6X16																
90S		140	70	100	56	24	50	8	20	90		10	180	195	155	250	320	M8X19															
90L				125														345	M8X19														
100L			160	80	140	63	28	60	24	100	12	205	215	180	270	385	M10X22																
112M			190	95	140	70									230	240	190	300	400	M10X22													
132S			216	108	140	89	38	80	10	33	132	12	270	275	210	345	470	M12X28															
132M					178												510	M12X28															
160M			254	127	210	108	42	110	12	37	160	15	320	330	255	420	615	M16X36															
160L					254													670	M16X36														
180M			279	139.5	241	121	48	110	14	42.5	180	15	355	380	280	455	700	M16X36															
180L					279													740	M16X36														
200L			318	159	305	133	55		16	49	200	19	395	420	305	505	770	M20X42															
225S	4, 8			286	149	60	140	18	53	225	19						815	M20X42															
225M	2	356	178	311			55	110	16			49			435	470	335	560	820	M20X42													
	4, 6, 8					60			53								845																
250M	2	406	203	349	168	65	140	18	58	250	24	490	510	370	615	910	M20X42																
	4, 6, 8																																
280S	2	457	228.5	368	190	75	140	20	67.5	280	24	550	580	410	680	985	M20X42																
	4, 6, 8																																
280M	2																			419	190	65	140	18	58	280	24	550	580	410	680	1035	M20X42
	4, 6, 8																																
315S	2	508	254	406	216	80	170	22	71	315	28	635	645	530	845	1160	M20X42																
	4, 6, 8, 10																																
315M	2																			457	216	65	140	18	58	315	28	635	645	530	845	1190	M20X42
	4, 6, 8, 10																																
315L	2			508	216	65	140	18	58	315	28	635	645	530	845	1190	M20X42																
	4, 6, 8, 10																																
355M	2	610	305	560	254	75	140	20	67.5	355	28	730	710	655	1010	1500	M20X42																
	4, 6, 8, 10																																
355L	2																			630	254	75	140	20	67.5	355	28	730	710	655	1010	1500	M20X42
	4, 6, 8, 10																																
	4, 6, 8, 10					95	170	25	86							1530	M20X42																



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