SPECIFICATIONS

Voltage (V)	:	415V+/-10%, 3 Ph AC,
Freq (Hz)	:	50 Hz+/-5%
Insulation	:	F
Starts/Hour	:	6/150/300
Over Speed	:	2.5 times rated speed or 2000rpm whichever is less for 6 and 8 poles
Factor of inertia	:	2
Cyclic Duration	:	25, 40, 60, 100
Mounting	:	IM1001, 1002, 1003 & 1004
Rating (Wound motor)	:	1.5-240 kW
Frame (Wound Motor)	:	112 - 400
Ambient	:	0-45°C
IP/IC	:	55/411
Terminal box position	:	on top for Wound rotor motors

GENERAL DESCRIPTION

1.1 These series of metallurgical and crane 3-phase motor YZR, with wound rotor are specially used to drive metallurgical crane and other similar machines with better over load capability and mechanical strength. Therefore, it is suitable for short time duty or intermittent preiodic duty and equipments with frequent starting and braking or distinct vitration and impact.

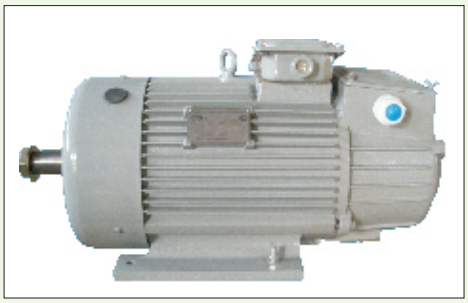
1.2 The standard range of power output and mounting dimensions comply with the recommended standard of IEC 72. The relation between range of power output and mounting dimensions are similar to Japanese standard JEMI202 and West Germany standard DIN42681. so that most of them can be interchanged.

1.3 The motor can work well when the altitude does not exceed 1000 meter.

1.4 There are two classes of Insulation, F and H. Class F is applicable to suit to temperature where coolant air does not exceed 40°c under normal condition. Class H is suitable for metallurgical sites when ambient temperature do not exceed 60°C. Both motors have same data.

1.5 The motors possess a better enclosure, degree of protection IP 44 for normal site condition and IP 54 for metallurgical condition.

1.6 The series YZR are 3- phase Induction metallur-gical and crane motor with wound rotors comply with the standard JB/T10105-1999.



1.7 Motor's rated voltage and frequency is 415, 50 HZ.

The operation of Intermittent Periodic Duty Type is suitable to these motors and its can be divided into below ways according to varied load characteristic:

2.1 Short Time Duty (S2). Operation is under constant load in fixed time and the motor is resting or deenergizing when the heat balance is not reached In a period of time the motor is cooled and the temperature difference between motor and medium is limited within 2K.

2.2 Intermittent Periodic Duty (S3) : To run according to a series of identical cycles, the running time under coustant load and the time of rest deenergized are included by period of one cycle, but the time is shorter and does not make motor to a heat balance condition. The starting current should be not to affect the temperature rise obviously.

2.3 Intermittent Periodic Duty with starting (S4) : The run according to a series of identical cycle, each cycle is formed by a starting time, a constant - load' s time & a rest or de-energized time But the time is short without condition making motor to a heat balance.

2.4 Intermittent Periodic Duty with starting and Electric Braking (S5) : It runs according to a series of identical cycle, there are starting time, contant -load' s time, electric quick-braking time and a rest or de-energized time In each cycle. But the motor can not reach the condition of heat balance in such short time .

2.5 When you 'choose motor, various conditions of starting and braking have to be converted into a equivalent data of starts hour according to equivalent heat then the motor quota is determined by the equivalent data.

2.6 Conversion

2.6.1 When the point start speed is end, the speed does not exceed 25% of rated speed i. e. four times equal ones of starting.

2.6.2 Ones electric' braking (To brake to one third of rated speed) is equal to 80% start.

2.7 The duty type S3-40% is basic duty, the motor technical data is in the Table 3. The motors in the Table 4-

1 and 4 - 2 give the data of delivery condition on the name Plate only under basic duty. If you need a duty type out of S2 to S5 the consultation with manufacturer must be needed.

Technical Data : 415V, 50Hz, TEFC Slipring, Crane Duty Motors

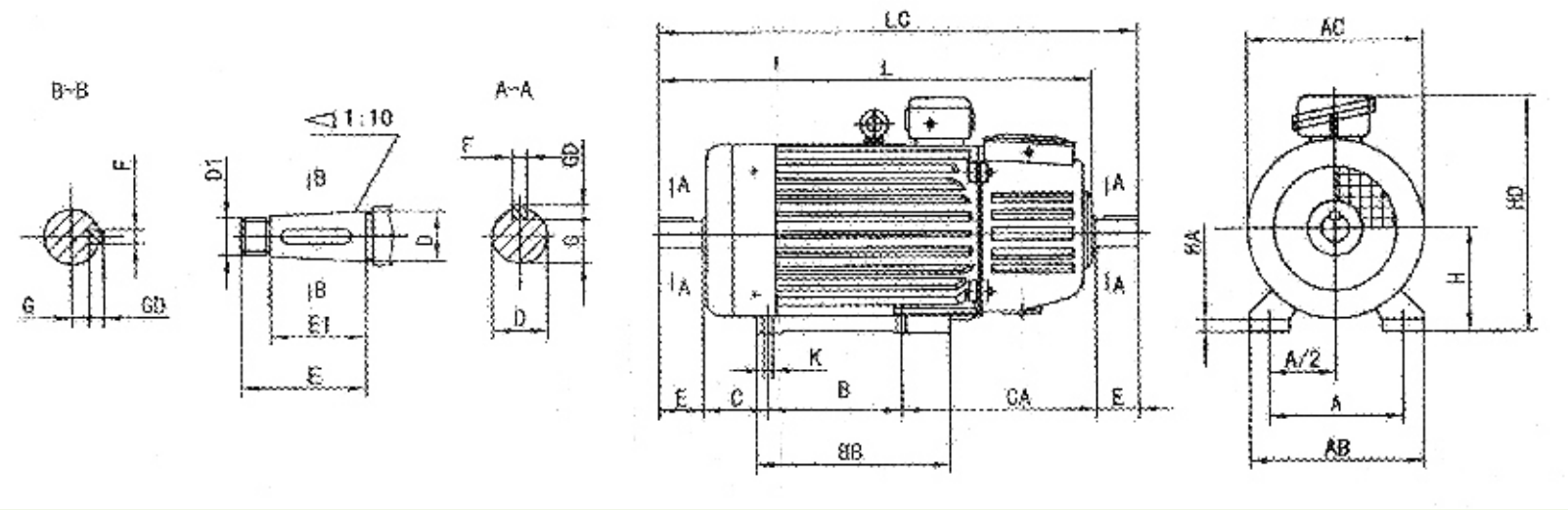
Frame Size	Duty Tipe	S2								S2								S3																Rotor Voltage	Moment of Intertia JM (kg.m2)	Weight (kg.)
	FC	30 Minutes				60 Minutes				15%				25%				40%								60%				100%						
	Items	KW	11	12	n	KW	11	12	n	KW	11	12	n	KW	11	12	n	KW	11	12	TM	10	n	n%	cosϕ	KW	11	12	n	Kw	11	12	n			
1000/R/Min																																				
112M		1.8	4.9	12.3	815.0	1.5	4.2	11.4	866.0	2.2	6.0	16.8	725.0	1.8	4.9	12.3	815.0	1.5	4.2	11.4	2.5	3.4	866.0	65.0	0.8	1.1	3.5	6.7	912.0	0.8	3.2	4.7	940.0	100.0	0.0	74.0
132M1		2.5	6.0	11.8	892.0	2.2	5.5	11.5	908.0	3.0	7.3	14.7	855.0	2.5	6.0	11.8	892.0	2.2	5.5	11.5	2.9	4.0	908.0	70.0	0.8	1.8	4.9	8.2	921.0	1.5	4.6	6.7	940.0	132.0	0.1	97.0
132M2		4.0	8.9	13.0	900.0	3.7	8.4	13.3	908.0	5.0	11.3	16.7	875.0	4.0	8.9	13.0	900.0	3.7	8.4	13.3	2.5	5.6	908.0	75.5	0.8	3.0	7.2	9.3	937.0	2.5	6.9	7.7	950.0	185.0	0.1	108.0
160M1		6.3	15.0	26.9	921.0	5.5	13.7	23.5	930.0	7.5	16.9	32.4	910.0	6.3	15.0	26.9	921.0	5.5	13.7	23.5	2.6	8.0	930.0	75.5	0.8	5.0	12.8	21.0	935.0	4.0	11.4	16.7	944.0	138.0	0.1	154.0
160M2		8.5	17.9	27.3	930.0	7.5	16.5	24.3	940.0	11.0	22.5	36.3	908.0	8.5	17.9	27.3	930.0	7.5	16.5	24.3	2.8	11.2	940.0	79.0	0.8	6.3	14.7	19.9	949.0	5.5	13.7	17.2	956.0	185.0	0.1	160.0
160L		13.0	26.2	28.9	942.0	11.0	22.4	25.3	957.0	15.0	31.8	35.7	920.0	13.0	26.2	28.9	912.0	11.0	22.8	25.3	2.5	13.0	945.0	82.0	0.8	9.0	19.2	20.4	952.0	7.5	17.2	16.9	970.0	250.0	0.2	174.0
180L		17.0	33.6	45.6	955.0	15.0	30.9	42.6	962.0	20.0	39.0	53.7	946.0	17.0	33.6	45.6	955.0	15.0	30.9	42.6	3.2	188.0	962.0	84.0	0.8	13.0	27.2	34.2	968.0	11.0	23.3	28.8	975.0	218.0	0.4	230.0
200L		26.0	51.4	75.5	956.0	22.0	45.0	64.0	964.0	33.0	56.8	94.3	942.0	26.0	51.4	75.5	956.0	22.0	45.0	64.0	2.9	26.6	964.0	86.0	0.8	19.0	40.7	55.4	969.0	17.0	37.1	48.2	973.0	200.0	0.7	320.0
225M		34.0	64.1	77.8	957.0	30.0	56.8	68.1	962.0	40.0	73.3	92.5	917.0	34.0	64.1	77.8	957.0	30.0	56.8	68.1	3.3	29.9	962.0	88.0	0.8	26.0	50.4	59.1	968.0	22.0	45.8	49.6	975.0	250.0	0.8	398.0
250M1		42.0	73.3	94.3	960.0	37.0	64.6	83.8	965.0	50.0	90.7	112.6	950.0	42.0	73.3	94.3	960.0	37.0	64.6	83.8	3.1	26.5	960.0	89.0	0.9	32.0	55.9	72.3	970.0	28.0	50.4	63.2	975.0	250.0	1.5	512.0
250M2		52.0	88.8	100.7	958.0	45.0	77.4	87.0	965.0	63.0	110.8	122.7	947.0	52.0	88.8	100.7	958.0	45.0	77.4	87.0	3.5	28.2	965.0	90.5	0.9	39.0	66.8	76.0	969.0	33.0	58.6	65.0	974.0	290.0	1.8	559.0
280S		63.0	108.0	130.0	966.0	55.0	92.9	118.9	969.0	75.0	131.9	155.2	960.0	63.0	108.0	130.0	966.0	55.0	92.9	109.7	3.0	34.0	969.0	91.0	0.9	48.0	80.6	98.1	972.0	40.0	69.6	81.4	976.0	280.0	2.3	747.0
280M		85	143.8	128.2	966.0	75.0	127.3	113.5	970.0	100.0	169.4	152.0	960.0	85.0	143.8	128.2	966.0	75.0	127.3	113.5	3.2	47.5	970.0	91.8	0.9	63.0	108.0	95.2	975.0	50.0	88.2	75.1	980.0	370.0	2.8	848.0
750/R/Min																																				
160L		9	20.51	25.73	694	7.5	17.49	21.06	705	11	25.18	32.32	676	9.0	20.51	25.73	694	7.5	17.49	21.06	2.73	12.7	705	78.5	0.72	6.0	15.02	16.67	712	5.0	12.82	13.73	724	205	0.195	172
180L		13	26.65	43.769	700	11	24.72	40.29	700	15	31.13	51.28	690	13	26.65	43.77	700	11	24.72	40.29	2.72	14.8	700	81	0.77	9.0	20.05	29.39	720	7.5	17.95	24.36	726	172	0.375	230
200L		18.5	36.63	61.533	701	15	30.67	48.99	712	22	43.95	74.17	690	18.5	36.63	61.53	701	15	30.67	48.99	2.94	17.75	712	85	0.78	13	27.47	42.12	718	11	24.72	35.44	723	178	0.65	317
225M		26	50.36	65.195	708	22	42.94	54.12	715	33	64.1	84.24	696	26	50.36	65.2	708	22	42.94	54.12	2.96	24.17	715	86	0.79	18.5	37.54	45.33	721	17	34.8	41.2	723	232	0.8	390
250M 1		35	58.6	73.253	715	30	58.05	61.99	720	42	68.67	89.28	710	35	58.6	73.25	715	30	58.05	61.99	2.64	31.4	720	87	0.8	26	47.61	54.12	725	22	42.12	45.51	729	272	1.5	515
250M 2		42	78.75	72.337	716	37	71.42	64.1	720	52	97.06	89.73	706	42	78.75	72.34	716	37	71.51	64.1	2.73	36.9	720	88	0.82	32	62.27	54.94	725	27	54.94	46.7	729	335	1.75	563
280S		52	98.89	97.06	712	45	88.36	84.24	717	63	118.1	119	704	52	98.89	97.06	712	45	88.36	84.24	3.17	48	717	88.8	0.80	39	78.93	72.7	722	33	69.87	61.35	726	305	2.73	747
280m		62	115.4	100.72	722	55	101.2	84.88	725	75	137.3	120.9	715	63	115.4	100.7	722	55	101.2	84.7	2.85	52.3	725	89	0.84	48	94.31	75.82	730	40	85.16	62.91	732	360	2.8	848
315S		85	150.9	162.8	722	75	134.3	143.5	725	100	183.1	148.3	715	85	150.9	162.8	722	75	134.3	143.5	2.94	62	725	89	0.85	63	115.7	119.7	729	55	96.51	95.5	731	302	7.05	1050
315M		100	174	168.02	715	90	157.5	147.3	720	125	228.9	212.4	717	100	174	168	715	90	157.5	147.3	3.13	57.7	720	90	0.87	75	128.2	124.5	725	63	113.5	104.2	728	372	8.5	1170
600/R/Min																																				
280S		42	84.24	162.16	517	37	77.65	140.3	560	55	102.6	215.4	564	42	84.24	162.2	571	37	77.65	140.3	2.8	44.2	572	86	0.76	32	70.51	122.1	578	27	63.18	102.4	582	150	3.5	767
280M		55	116.3	189.54	556	45	95.05	151.1	560	63	133.7	220.7	548	55	116.3	189.5	556	45	95.05	151.1	3.16	63.6	560	86	0.77	37	82.41	124.5	569	33	82.04	108	587	172	3.9	840
315S		63	120.9	148.29	580	55	108.3	127	580	75	141	177.6	574	63	121.3	148.2	580	55	108.3	127	3.11	62.5	580	88.5	0.79	48	97.61	111.7	585	40	87.17	92.48	588	242	7.05	1026
315M		85	163.9	156.58	576	75	146.5	136.7	579	100	192.3	185.9	570	85	163.9	156.6	576	75	146.5	136.7	3.45	85.3	579	89	0.79	63	128.2	114.3	584	50	114.5	90.19	587	325	8.5	1156
355M		110	199.6	189.54	581	90	164.8	152.5	585	132	243.6	230.7	576	110	199.6	189.5	581	90	164.8	152.5	3.33	83	589	90	0.81	75	141	128.2	588	63	124.5	107.1	589	330	14	1520
355L1		132	235.3	195.04	576	110	198.7	157.5	582	160	287.5	239	571	132	235.3	195	578	110	198.7	157.5	3.1	90	582	91	0.82	90	165.7	130.9	585	75	143.8	109	588	388	16.75	1764
355L2		150	268.3	177.64	588	132	239.9	153.4	588	185	323.2	220.7	585	150	268.3	177.6	588	132	239.9	153.4	3.48	126	588	92	0.82	110	206.9	129.8	591	90	174.9	14.28	592	475	18.75	1810
400L1		190	357.1	265.54	585	160	309.5	223.4	587	220	407.5	307.7	581	190	357.1	265.5	584	160	309.5	223.4	3.02	175	587	91.5	0.79	135	269.2	188.6	592	115	245.4	159.3	591	395	24	2400
400L2		240	448.7	276.53	585	200	391	230.7	588	270	494.5	311.3	582	240	448.7	276.5	586	200	387.3	230.7	2.85	213	588	92.2	0.77	170	340.6	196	591	145	304	167.6	592	460	27.5	2950

Data subject to change without notice.

Frame Size	Duty Tipe	S4 and S5																								Rotor Voltage	Moment of Intertia JM (kg.m2)	Weight (kg.)
	FC	150/Starts/h												300/Starts/h										600/Starts/h				
		25%				40%				60%				40%				60%				60%						
	Items	KW	11	12	n	KW	11	12	n	KW	11	12	n	KW	11	11	n	KW	11	12	TM	10	n	η%	cosϕ			
1000/R/Min																												
112M	1.6	4.35	10.35	845	1.3	3.85	8.10	890	1.0	3.434	6.02	920	1.2	3.7	7.3	900	0.9	3.388	5.375	930	0.7	3.4	4.46	946	100	0.028	74
132M1	2.2	5.49	10.26	908	2.0	5.22	9.16	913	1.7	4.853	7.69	931	1.8	4.9	8.2	926	1.6	4.67	7.206	936	1.35	4.9	6.8	945	132	0.058	97
132M2	3.7	8.88	12.00	915	3.5	8.42	10.26	925	2.8	7.783	8.84	940	3.3	8.6	10.9	925	2.7	7.783	8.836	940	2.3	6	7.5	950	185	0.065	108
160M1	5.8	14.19	25.00	927	5.0	12.91	21.43	935	4.8	12.64	20.79	937	4.8	12.9	21.4	935	4.5	12.64	20.51	937	3.8	12	17.5	946	138	0.118	154
160M2	7.5	16.48	25.27	940	7.0	15.66	23.44	945	6.0	14.28	19.96	954	6.0	14.3	20.0	954	5.5	13.55	18.13	959	4.0	13	14.2	970	185	0.145	160
160L	11	25.91	25.46	950	10	21.06	22.89	957	8.0	17.86	18.13	969	9.0	17.9	18.1	969	7.5	17.12	16.94	971	6.0	17	14.2	978	250	0.195	174
180L	15	30.22	40.01	960	13	27.01	34.52	965	12	25.64	31.68	969	12	25.6	31.7	969	11	24.36	29.03	972	9.0	24	22.9	978	218	0.375	230
200L	21	43.04	50.73	965	18.5	38.92	44.41	970	17	37.08	49.26	973	17	37.1	48.2	973	15	33.88	36.63	975	11	32	28.5	981	200	0.65	320
225M	28	53.11	64.10	965	25	48.53	56.95	969	22	45.78	49.90	973	22	45.8	49.9	973	20	42.12	45.23	977	15	39	36.8	982	250	0.825	398
250M1	33	57.69	75.63	970	30	53.11	68.58	973	28	49.45	63.91	975	26	47.6	59.2	977	25	45.78	56.86	978	17.5	39	43.2	9784	250	1.5	512
250M2	42	71.42	82.87	967	37	64.10	72.61	971	33	57.69	64.55	975	31	54.9	60.5	976	30	53.11	58.51	977	24	49	50.9	981	290	1.75	559
280S	52	86.99	106.22	970	45	76.00	91.57	974	42	73.25	85.71	975	40	69.6	81.5	977	37	65.01	75.27	978	30	64	66.5	980	280	2.3	747
280M	70	119.04	105.30	972	62	104.39	93.40	975	55	82.87	95.23	978	52	89.7	75.5	979	47	84.24	70.78	981	37	78	61	982	370	2.8	848
750/R/Min																												
160L	7.5	17.40	20.88	712	7.0	16.57	19.41	716	5.8	15.02	15.84	724	6.0	15.3	16.5	722	5	14.19	13.64	727	3.8	14	11.2	732	205	0.195	172
180L	11	23.26	37.18	711	10	21.52	33.51	717	8	18.77	26.37	728	8	18.8	26.4	728	7.5	18.04	24.63	729	5.8	18	20.6	936	172	0.375	230
200L	15	31.13	49.54	713	13	27.47	42.67	718	12	25.82	39.37	720	12	25.8	39.4	720	11	24.72	35.8	724	9.0	23	28.1	731	178	0.65	317
225M	21	41.20	52.01	718	18.5	37.54	45.51	721	17	34.8	41.75	724	17	34.8	41.8	724	15	32.14	36.63	727	11	31	29.1	733	232	0.8	390
250M 1	29	56.31	62.72	700	25	49.45	53.75	705	22	44.87	47.52	712	22	44.9	47.5	712	20	42.12	42.3	716	15	39	34.2	725	272	1.5	515
250M 2	33	64.10	57.23	725	30	58.60	51.83	727	28	55.86	48.35	728	26	53.1	44.8	730	25	52.19	43.04	731	18.5	45	34.4	736	335	1.75	563
280S	42	83.33	78.56	719	37	76.00	69.22	723	33	69.87	61.35	726	31	67.8	58.1	728	30	65.93	56.31	732	24	64	49.1	733	305	2.3	747
280m	52	95.23	82.59	727	45	85.16	71.15	730	42	81.49	66.29	732	42	81.5	66.3	732	37	76	58.14	735	30	73	51.4	737	360	2.8	848
315S	64	108.05	121.51	731	60	101.18	113.73	733	56	97.06	106.03	733	52	91.6	98.0	725	48	86.07	90.47	736	35	80	71.7	740	302	7.05	1050
315M	75	130.02	124.53	725	72	124.53	119.68	725	65	115.4	107.68	727	60	109.9	98.9	729	55	106.2	90.65	729	41	100	73.7	732	372	8.5	1170
600/R/Min																												
280S	33	72.06	129.85	578	30	67.76	114.44	579	28	65.01	106.2	580	36	62.3	98.9	582	25	60.43	94.31	583	17	56	69.8	588	150	3.5	767
280M	42	90.38	141.00	565	37	82.41	124.52	569	33	77.19	108	573	31	75.1	100.7	574	28	71.88	89.73	577	22	73	75	582	172	3.9	840
315S	50	100.72	117.58	583	45	91.57	105.56	585	42	87.9	98.33	586	40	86.1	93.6	587	37	82.41	86.53	587	30	84	76.3	589	242	7.05	1026
315M	65	131.86	118.12	584	62	124.53	108.95	585	55	119	99.8	586	53	115.4	90.4	587	48	113.5	86.71	588	37	114	73	589	325	8.5	1156
355M	80	146.96	137.00	587	72	142.84	123.15	588	65	128.2	110.78	589	60	119.0	102.6	590	55	113.5	93.76	590	41	104	76.2	591	330	14	1520
355L1	100	169.40	143.75	586	90	155.66	130.00	588	80	141.9	115.82	589	75	137.3	109.0	590	70	132.8	101.6	591	50	120	78.4	594	388	16.75	1764
355L2	120	228.92	137.35	588	110	210.60	171.67	589	95	192.3	112.35	591	90	187.7	106.4	591	80	174	119.2	592	60	165	77.1	594	475	18.75	1810
400L1	146	287.52	204.20	588	130	263.71	182.20	589	115	245.4	160.23	590	110	238.1	153.8	591	97	226.2	135.5	592	75	220	114	594	395	24	2400
400L2	185	362.60	204.20	590	165	334.22	240.00	589	145	304	167.55	592	140	296.7	161.2	592	123	272.9	141.9	592	95	265	122	594	460	27.5	2950

OXFORD®

Mounting and Overall Dimensions
112-400 IM 1001, 1003, 1002, 1004
installation and dimension of serise 112-400 IM 1001-10036-1002-1004



Frame	Symbol	Dimensions of Installation													Overall dimensions						
	Items	H	A	C	CA	K	Diameter of Screw	D	D1	E	E1	F	G	GD	AC	AB	HD	BB	L	LG	HA
112M	112	190	140	70	300	12	M10	32	-	80	-	10	27	8	245	250	335	235	590	670	15
132M	132	216	178	89				38					33		285	275	365	260	645	727	17
160M	160	254	210	108	300	15	M12	48		110		14	42.5	9	325	320	425	290	758	868	
160L			254															335	800	912	20
180L	180	279	279	121	360			55	M36x3		82		19.9		360	360	465	380	870	980	22
200L	200	318	305	133	400	19	M16	60	M42x3	140		16	21.4	10	405	405	510	400	975	1118	25
225M	225	356	311	149	450			65					23.9		430	455	545	410	1050	1190	28
250M	250	406	349	168	540	24	M20	70	M48x3		105	18	25.4	11	480	515	605	510	1195	1337	30
280S	280	257	368	190				85		170		20	31.7	12	535	575	665	530	1265	1438	32
280M			419						M64x4									580	1315	1489	
315S	315	508	406	216	600	28	M24	95			130	22	35.2	14	620	640	750		1390	1562	35
315M			457															630	1440	1613	
355M	355	610	560	254	600			110	M80x4	210	165	25	41.9		710	740	840	730	1650	1864	38
355L			630															800	1720	1934	
400L	400	686	710	280		35	M30	130	M100x4	250	200	28	50	16	840	855	950	910	1865	2120	45

Data subject to change without notice.