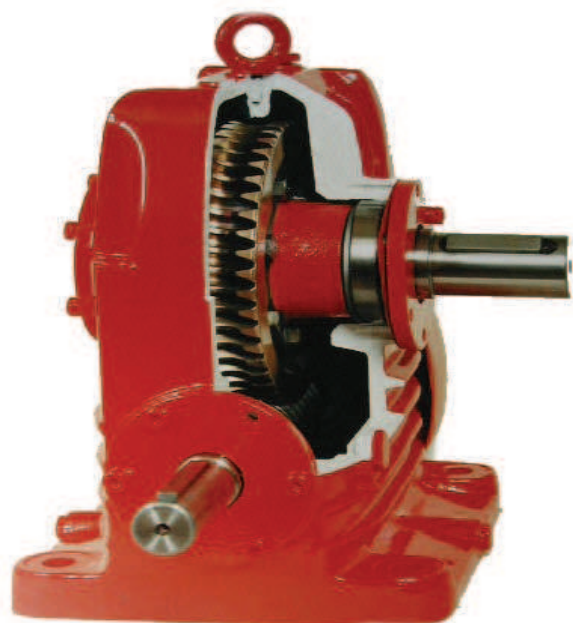


REDUTORES E MOTO-REDUTORES  
GEARBOXES AND  
MOTORIZED GEARBOXES  
TIPO A/R—TYPE A/R



# REDUTOR DE RODA DE CORÔA – SEM-FIM TIPO- A/R

## ESPECIFICAÇÕES TÉCNICAS:

### CARTÉR:

- Em ferro fundido de grande qualidade.
- A sua fabricação precisa, garante um alinhamento exacto das engrenagens.
- Os pés são maciços e fortemente nervurados e dão um amplo suporte que assegura uma rigidez absoluta.

### ENGRENAGENS:

- O sem-fim e o seu eixo é fabricado de uma só peça.
- Material usado para o sem-fim é aço ao carbono de grande resistência, temperado por indução ou em alguns casos um aço de liga com tratamento térmico antes de ser cortado.
- A corôa é fundida em bronze fosforoso.
- As engrenagens são rectificadas e largamente dimensionadas para transmitir continuamente a potência nominal.

### VEIOS E APOIOS:

- Todos os veios são rectificados e apoiados em rolamentos de rolos cónicos de grande capacidade de carga.
- Sem-fim e veio de saída com retentor para evitar perdas de óleo e entrada de poeiras.

### RENDIMENTO:

- O rendimento é muito elevado e atinge 96/98% sob plena carga.

### LUBRIFICAÇÃO:

- As engrenagens funcionam em banho de óleo c/nível controlado por visor de vidro.
- Entrada e saída de óleo por sistema de bujão roscado.
- Os rolamentos recebem lubrificação adequada mediante chapinhagem.

### REFRIGERAÇÃO:

- A sua capacidade de refrigeração do carter através de ventoinha própria de arrefecimento é suficiente para temperaturas de óleo até 80°C.

### ENSAIO:

- Todos os componentes do redutor são examinados durante e depois da fabricação.
- Feita a montagem verifica-se o contacto e o alinhamento correcto das engrenagens.
- Segue um ensaio conforme ficha de inspecção e ensaio interna de forma a garantir a conformidade do equipamento para expedição.

REDUTORES TIPO A... e R...

GEARBOXES TYPE A... e R...

RAZAO RATIO  i	VELOCIDADE DE ENTRADA <R.P.M.> INPUT SPEED									TIPO TYPE		N.FABRICO ORDER NUMBER
	750			1000			1500					
	POT. POWER CV	REND. EFFIC. %	MOM. TORQUE Nm	POT. POWER CV	REND. EFFIC. %	MOM. TORQUE Nm	POT. POWER CV	REND. EFFIC. %	MOM. TORQUE Nm			
69	11,3	73,2	5690	14,5	75,6	5640	19,6	78,4	5214	A111	R111	6917
69	14,2	72,5	7090	17,3	74,4	7029	24,7	77,3	6509	A121	R121	6918
66	3,3	74,9	1624	3,77	76,8	1482	5,3	79,8	1376	A72	R72	6614
65	1,0	71,8	847	1,27	73,6	827	2,1	76,7	678	A62	R62	6513
60	4,9	76,0	2240	6,3	78,0	2200	8,3	80,9	2010	A81	R81	6015
	10,5	74,6	4687	13,5	76,4	4582	17,9	79,3	4230	A101	R101	6017
	12,7	74,5	5639	16,1	76,5	5502	21,6	79,4	5114	A111	R111	6018
	15,8	74,7	7031	20,1	76,7	6907	27,0	79,7	6419	A121	R121	6019
	21,4	74,0	9456	27,2	75,9	9244	36,5	78,9	8590	A131	R131	60110
59	6,18	75,6	2723	7,85	77,5	2654	10,5	80,5	2458	A91	R91	5916
53	17,6	75,0	6906	22,0	77,0	6692	29,7	80,0	6232	A121	R121	53110
52	11,3	76,4	4407	14,2	78,4	4271	19,0	81,3	3970	A101	R101	5218
	13,6	76,2	5303	17,2	78,2	5194	23,3	81,2	4850	A111	R111	5219
51	23,8	75,6	9082	30,4	77,5	8870	40,7	80,5	8260	A131	R131	51111,5
	3,7	75,2	1405	4,7	77,1	1373	6,3	80,0	1280	A72	R72	5115
50	6,7	76,2	2533	8,5	78,6	2474	11,4	81,6	2300	A91	R91	5017
48	5,2	76,0	1875	6,6	78,0	1836	8,9	81,0	1720	A81	R81	4816
47	1,7	76,7	605	2,2	78,7	590	2,9	81,7	555	A62	R62	4714
46	14,2	75,9	4937	18,0	77,9	4836	24,2	80,9	4503	A111	R111	46110
45	12,2	75,7	4152	15,5	77,6	4055	20,9	80,6	3769	A101	R101	4519
	19,7	75,1	6613	24,9	77,0	6446	33,5	80,0	6000	A121	R121	45111,5
44	25,8	75,4	8504	32,7	77,4	8305	43,9	80,3	7899	A131	R131	44113
43	7,0	75,1	2276	9,2	77,1	2222	12,1	80,1	2041	A91	R91	4318
41	4,3	75,2	1337	5,7	77,2	1302	7,4	80,2	1214	A72	R72	4116
	6,0	75,3	1867	7,7	77,3	1818	10,3	80,3	1690	A81	R81	4117
40	13,3	75,1	3987	16,9	77,0	3886	22,7	80,0	3619	A101	R101	40110
39	16,2	75,3	4736	20,6	77,3	4625	27,3	80,3	4299	A111	R111	39111,5
	21,6	75,6	6350	27,4	77,6	6184	36,9	80,6	5764	A121	R121	39113
	29,0	75,5	8520	36,9	77,5	8313	49,6	80,5	7726	A131	R131	39114
37	7,4	75,7	2056	9,4	77,6	2013	12,6	80,6	1864	A91	R91	3719
36	1,94	75,8	528	2,45	77,7	512	3,3	80,7	476	A62	R62	3615
35	4,7	75,6	1236	6,0	77,5	1207	8,0	80,5	1120	A72	R72	3517
35	6,4	75,7	1697	8,1	77,7	1650	10,9	80,7	1536	A81	R81	3518
34	17,7	75,6	4540	22,4	77,6	4419	30,1	80,6	4050	A111	R111	34113
34	23,3	75,8	6005	29,6	77,8	5842	40,3	80,8	5430	A121	R121	34114
33	8,1	75,9	2018	10,1	77,9	1956	13,7	80,9	1786	A91	R91	33110
33	15,7	76,0	3936	19,8	78,0	3820	26,8	80,9	3528	A101	R101	33111,5
30	5,2	76,1	1195	6,8	78,1	1158	9,1	81,0	1098	A72	R72	3018
30	7,1	76,0	1618	8,95	77,9	1561	12,0	80,9	1448	A81	R81	6025
30	19,1	76,0	4329	24,0	78,0	4179	32,1	81,0	3880	A111	R111	6028
30	25,7	76,1	5845	32,3	78,1	5648	43,4	81,1	5256	A121	R121	6029
30	33,9	76,2	7715	42,6	78,2	7455	57,1	81,2	6920	A131	R131	60210
28	2,2	77,0	484	2,8	79,0	469	3,8	82,0	436	A62	R62	2816
26,5	27,8	76,8	5636	35,0	78,7	5446	48,4	81,7	5055	A121	R121	53210
26	18,1	76,9	3690	23,3	78,8	3569	31,4	81,8	3290	A101	R101	5228
26	21,1	76,7	4186	26,4	78,7	4040	35,6	81,7	3748	A111	R111	5229
25,5	5,8	76,6	1130	7,4	78,6	1101	9,9	81,6	1023	A72	R72	5125
25	9,9	76,8	1890	12,5	78,7	1828	16,7	81,7	1684	A91	R91	5027
24,5	36,3	76,9	6819	46,0	78,9	6627	61,6	81,9	6228	A131	R131	49212
24	2,5	77,6	475	3,25	79,1	461	4,4	81,6	428	A62	R62	2417
	8,3	78,1	1554	10,5	79,5	1503	14,2	81,0	1397	A81	R81	4826
23	22,8	78,0	4082	29,0	79,4	396	37,6	81,9	3674	A111	R111	46210
22,5	31,4	78,1	5480	39,8	79,6	5326	54,0	82,0	4960	A121	R121	45211,5
21,5	10,0	77,9	1668	12,7	79,3	1617	17,2	81,8	1550	A91	R91	4328
20,5	6,9	78,3	1105	8,8	79,7	1072	11,9	82,1	998	A72	R72	4126
	8,5	78,1	1360	10,8	79,7	1321	14,8	82,0	1229	A81	R81	4127
20	22,6	78,1	3515	28,8	79,3	3416	39,0	81,9	3187	A101	R101	40210
	40,6	79,6	6437	51,7	81,0	6252	70,1	83,4	5813	A131	R131	60310
19,5	26,5	78,3	4026	33,6	79,7	3898	45,5	82,1	3619	A111	R111	39211,5

REDUTORES TIPO A... e R...

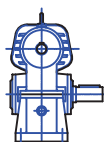
GEARBOXES TYPE A... e R...

RAZAO RATIO i	VELOCIDADE DE ENTRADA <R.P.M.> INPUT SPEED									TIPO TYPE		N.FABRICO ORDER NUMBER
	750			1000			1500					
	POT. POWER CV	REND. EFFIC. %	MOM. TORQUE Nm	POT. POWER CV	REND. EFFIC. %	MOM. TORQUE Nm	POT. POWER CV	REND. EFFIC. %	MOM. TORQUE Nm			
19,5	34,2	78,0	5305	44,8	79,4	5180	60,8	81,9	4818	A121	R121	39213
18,5	11,3	77,9	1620	14,4	79,3	1586	19,6	81,8	1475	A91	R91	3729
18	3,3	79,0	464	4,2	80,2	450	5,6	82,6	419	A62	R62	3625
17,66	37,0	79,5	5178	47,0	80,9	5023	63,8	83,3	4697	A121	R121	53310
17	25,8	78,9	3458	33,0	80,0	3351	44,6	82,4	3059	A101	R101	33211,5
	30,3	79,2	4055	38,4	80,4	3922	52,0	82,7	3586	A111	R111	34213
16,5	12,5	79,0	1628	16,0	80,2	1580	21,7	82,5	1420	A91	R91	32210
16	10,2	79,8	1299	13,0	81,2	1263	17,6	83,7	1177	A81	R81	4836
15,33	31,7	79,9	3866	40,3	81,4	3755	54,6	83,9	3456	A111	R111	46310
15	8,3	79,0	988	10,6	80,2	954	14,4	82,6	894	A72	R72	3028
	28,1	79,6	3346	35,8	81,0	3243	48,5	83,4	2998	A101	R101	4539
14,66	43,6	79,7	5075	55,4	81,2	4923	74,9	83,5	4579	A121	R121	44311,5
	55,0	79,8	6400	69,6	81,3	6191	94,3	83,6	5645	A131	R131	44313
14,33	13,1	80,0	1496	16,6	81,5	1450	23,5	83,8	1348	A91	R91	4338
14	3,5	78,9	384	4,4	80,0	372	6,0	82,4	362	A62	R62	2826
13,33	30,9	79,7	3272	39,2	81,2	3165	53,1	83,6	2920	A101	R101	40310
13,33	35,2	81,0	3690	44,8	82,2	3576	60,8	84,7	3324	A111	R111	5249
	50,7	81,3	5324	64,7	82,3	5164	87,8	84,6	4800	A121	R121	39313
12,33	14,6	80,0	1437	18,6	81,5	1393	25,2	83,8	1293	A91	R91	3739
11,66	12,0	80,2	1118	15,3	81,6	1090	20,8	84,0	1008	A81	R81	3538
11,5	32,2	80,7	3540	48,8	82,1	3444	66,2	84,6	3211	A111	R111	46410
11,25	34,1	80,3	3068	43,6	81,7	2988	59,0	84,2	2860	A101	R101	4549
11	68,1	81,0	6042	87,0	82,5	5889	117,8	85,0	5434	A131	R131	44413
10	11,3	80,3	903	14,4	81,7	878	19,5	84,2	812	A72	R72	3038
	38,6	80,7	3098	49,1	82,1	3008	66,5	84,6	2780	A101	R101	40410
9.75	60,0	81,2	4729	76,0	82,8	4583	103	85,3	4350	A121	R121	39413
	74,2	81,2	5850	94,2	82,7	5669	127,6	85,2	5261	A131	R131	39414
9,33	4,8	80,0	358	6,1	81,5	347	8,3	83,8	326	A62	R62	2836
8,75	16,4	80,6	1027	18,6	82,0	997	25,2	84,5	924	A81	R81	3548
8,5	43,5	80,8	2972	55,2	82,2	2880	74,8	84,7	2672	A101	R101	34411,5
	50,5	81,0	3463	64,1	82,4	3350	86,8	84,9	3106	A111	R111	34413
	67,4	67,4	4648	84,8	83,1	4507	116	85,6	4182	A121	R121	34414
8,25	19,6	81,3	1310	24,9	82,9	1270	34,0	85,4	1227	A91	R91	33410
7,5	13,7	81,6	831	17,3	83,1	804	23,4	85,7	738	A72	R72	3048

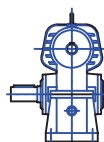
VERSAO

VERSION

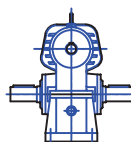
A...



N

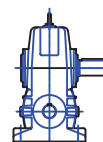


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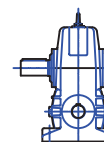


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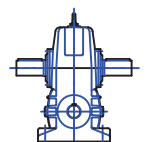
R...



N



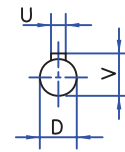
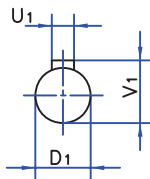
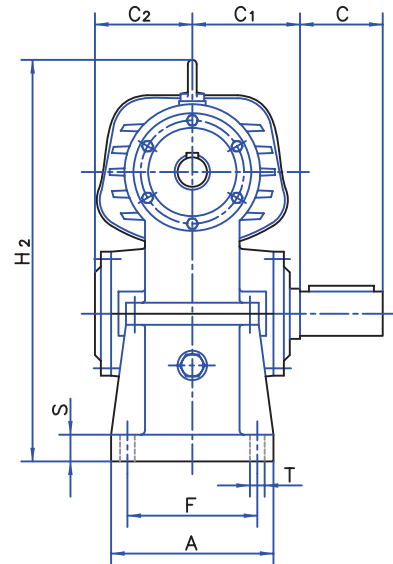
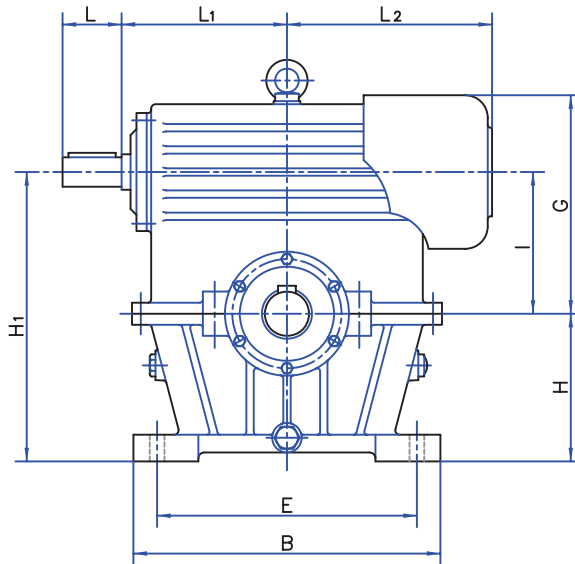
S



D

REDUTORES TIPO A...

GEARBOXES TYPE A...

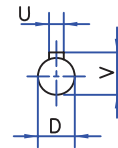
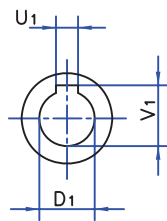
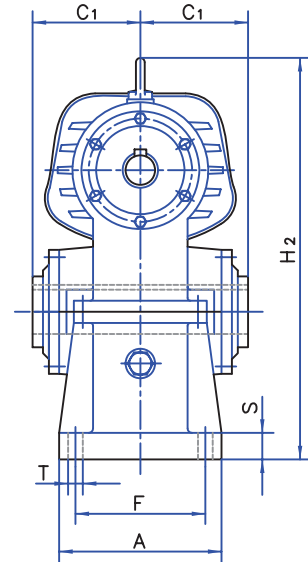
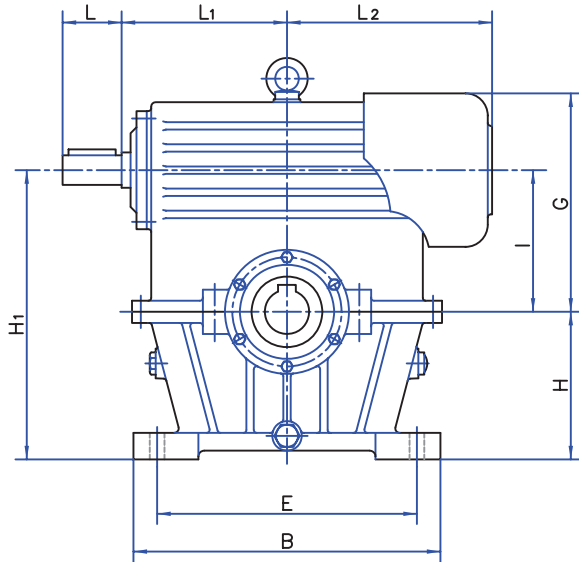


TABELAS\TRANSMISSOES\R-SEMFI\A TAB0052

TIPO TYPE	A62	A72	A81	A91	A101	A111	A121	A131
A	160	180	230	247	270	310	350	522
B	280	420	450	490	550	630	710	826
C	80	90	120	135	155	180	195	220
C1	101,5	115	129	135,5	159	167	185	250
C2	97	116	125	139	145	162	180	242
DK6	32	38	42	52	60	65	70	75
D1K6	45	52	58	62	70	80	90	110
E	245	325	350	430	440	510	625	598
F	125	130	180	195	205	235	260	432
G	182	233	273	315	380	413	472	541
H	130	180	200	252	265	300	325	381
H1	243,3	332	372,5	457	505	573	632	722
H2	350	460	520	607	675	750	820	951
I	113,3	152	172,5	205	240	273	307	341
L	80	80	90	100	110	120	130	150
L1	147	188	216,5	239	270	309	345,5	396
L2	146	185	221	325	372	408	470	522
S	20	32	35	43	45	52	60	60
T	15	18	18	20	24	28	35	42
U	10	10	12	16	18	18	20	20
U1	14	16	16	18	20	22	25	28
V	35,3	41,3	45,1	55,8	64,2	69,2	74,6	79,6
V1	48,5	55,8	61,8	66,2	74,6	85,5	95,3	116,1

REDUTORES TIPO A...0

GEARBOXES TYPE A...0

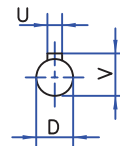
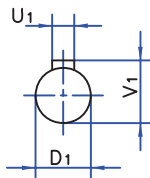
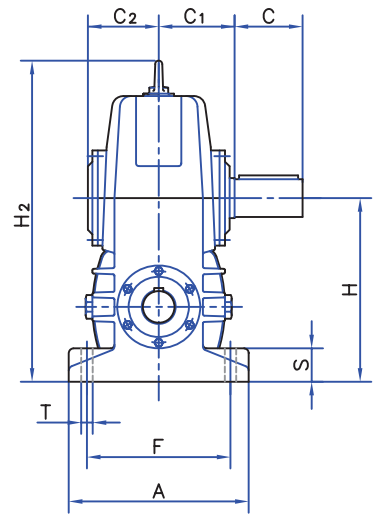
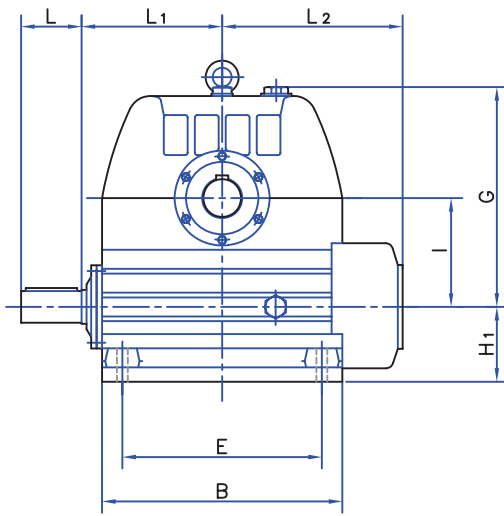


TABELAS\TRANSMISSOES\R-SEMFI\AO\_TAB00055

TIPO TYPE	A62.0	A72.0	A81.0	A91.0	A101.0	A111.0	A121.0	A131.0
A	160	180	230	247	270	310	350	522
B	280	420	450	490	550	630	710	826
C1	93	115	129	135,5	159	167	185	250
DK6	32	38	42	52	60	65	70	75
D1H7	40	48	60	65	70	80	90	110
E	245	325	350	430	440	510	625	598
F	125	130	180	195	205	235	260	432
G	182	233	273	315	380	413	472	541
H	130	180	200	252	265	300	325	381
H1	243,3	332	372,5	457	505	573	632	722
H2	350	460	520	607	675	750	820	951
I	113,3	152	172,5	205	240	273	307	341
L	80	80	90	100	110	120	130	150
L1	147	188	216,5	239	270	309	345,5	396
L2	146	185	221	325	372	408	470	522
S	20	32	35	43	45	52	60	60
T	15	18	18	20	24	28	35	42
U	10	10	12	16	18	18	20	20
U1	12	14	18	18	20	22	25	28
V	35,3	41,3	45,1	55,8	64,2	69,2	74,6	79,6
V1	43,2	51,6	64,3	69,3	74,7	85,6	95,4	116,2

REDUTORES TIPO R...

GEARBOXES TYPE R...

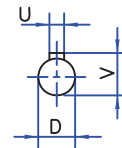
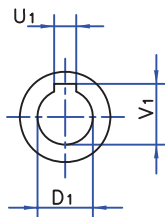
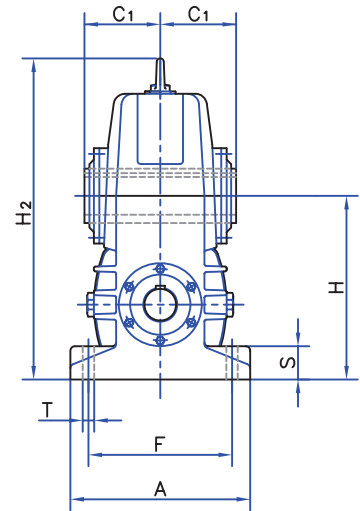
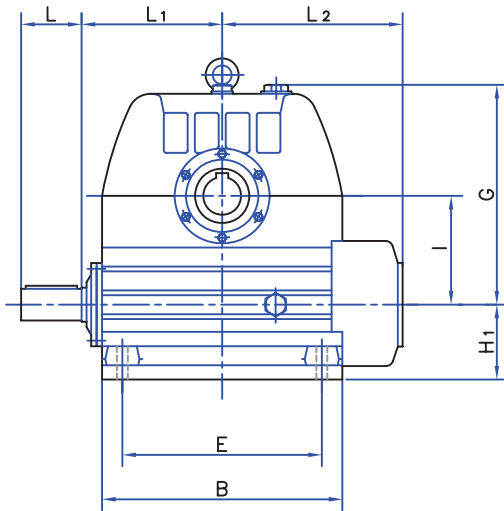


TABELAS\TRANSMISSOES\R--SEMFI\M\R\TAB0079

TIPO TYPE	R62	R72	R81	R91	R101	R111	R121	R131
A	240	260	320	340	380	430	470	512
B	250	355	440	455	530	550	610	725
C	80	90	120	135	155	180	195	220
C1	101.5	115	129	135.5	159	167	185	250
C2	97	116	125	139	145	162	180	242
D k6	32	38	42	52	60	65	70	75
D1 k6	45	52	58	62	70	80	90	110
E	200	260	320	400	440	475	510	612
F	190	203	260	270	300	350	380	432
G	254	323	363	426	496	562	618	708
H	213.3	269.5	319.5	345	405	458	512	571
H1	100	117.5	147	140	165	185	205	230
H2	393	488	558	613	708	794	878	1003
I	113.3	152	172.5	205	240	273	307	341
L	80	80	90	100	110	120	130	150
L1	147	200	246.5	239	296	309	345.5	396
L2	190	256	325	325	398	408	470	522
S	35	35	45	45	50	55	60	60
T	18	21	21	21	25	28	35	45
U	10	10	12	16	18	18	20	20
U1	14	16	16	18	20	22	25	28
V	35.3	41.3	45.1	55.8	64.2	69.2	74.6	79.6
V1	48.5	55.8	61.8	66.2	74.6	85.5	95.3	116.1

REDUTORES TIPO R...0

GEARBOXES TYPE R...0



TABELAS\TRANSMISSOES\R--SEMFI\M\R\TAB0103

TIPO TYPE	R62.0	R72.0	R81.0	R91.0	R101.0	R111.0	R121.0	R131.0
A	240	260	320	340	380	430	470	512
B	250	355	440	455	530	550	610	725
C 1	93	115	129	135.5	159	167	185	250
D k6	32	38	42	52	60	65	70	75
D 1 H7	40	48	60	65	70	80	90	110
E	200	260	320	400	440	475	510	612
F	190	203	260	270	300	350	380	432
G	254	323	363	426	496	562	618	708
H	213.3	269.5	319.5	345	405	458	512	571
H1	100	117.5	147	140	165	185	205	230
H2	393	488	558	613	708	794	878	1003
I	113.3	152	172.5	205	240	273	307	341
L	80	80	90	100	110	120	130	150
L 1	147	200	246.5	239	296	309	345.5	396
L 2	190	256	325	325	398	408	470	522
S	35	35	45	45	50	55	60	60
T	18	21	21	21	25	28	35	45
U	10	10	12	16	18	18	20	20
U1	12	14	18	18	20	22	25	28
V	35.3	41.3	45.1	55.8	64.2	69.2	74.6	79.6
V 1	43.2	51.6	64.3	69.3	74.7	85.6	95.4	116.2



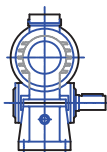
POTENCIA POWER		V.SAIDA OUTPUT	RAZAO RATIO	M2	F.S	TIPO TYPE	N.FABRICO ORDER NUMBER	POTENCIA POWER		V.SAIDA OUTPUT	RAZAO RATIO	M2	F.S	TIPO TYPE	N.FABRICO ORDER NUMBER		
CV	KW	r.p.m.	i	(Nm)				CV	KW	r.p.m.	i	(Nm)					
2	1,5	21	65	682	1,05	MA62/90L MR62/90L	6513	15	11	27	52	3977	1,27	MA101/160M MR101/160M	5218		
		30	47	470	1,45	MA62/90L MR62/90L	4714			56	25	1917	1,11	MA91/160M MR91/160M	5027		
3	2,2	39	36	550	1,1	MA62/100L MR62/100L	3615			65	21,5	1652	1,15	MA91/160M MR91/160M	4328		
		50	28	429	1,26	MA62/100L MR62/100L	2816			75	18,5	1432	1,31	MA91/160M MR91/160M	3729		
4	3	21	66	1363	1,32	MA72/100L MR72/100L	6614			87	16	1234	1,17	MA81/160M MR81/160M	4836		
		58	24	493	1,1	MA62/100L MR62/100L	2417			93	15	1154	1,3	MA72/160L MR72/160L	3038		
5,5	4	27	51	1458	1,14	MA72/112M MR72/112M	5115			20	15	20	69	716	1,23	MA121/160L MR121/160L	6918
		34	41	1158	1,34	MA72/112M MR72/112M	4116					23	60	6226	1,08	MA111/160L MR111/160L	6018
		78	18	504	1,0	MA62/112M MR62/112M	3625					27	52	5303	1,16	MA111/160L MR111/160L	5219
		100	14	393	1,09	MA62/112M MR62/112M	2826					30	46	4773	1,21	MA111/160L MR111/160L	46110
7,5	5,5	23	60	2334	1,10	MA81/132S MR81/132S	6015					31	45	4619	1,04	MA101/160L MR101/160L	4519
		29	48	1851	1,18	MA81/132S MR81/132S	4816					35	40	4091	1,3	MA101/160L MR101/160L	40110
		40	35	1342	1,06	MA72/132S MR72/132S	3517	87,5	16			1636	1,08	MA91/160L MR91/160L	32210		
		46	30	1167	1,21	MA72/132S MR72/132S	3018	100	14			1432	1,17	MA91/160L MR91/160L	4338		
		55	25,5	976	1,32	MA72/132S MR72/132S	5125	122	11,5			1173	1,04	MA81/160L MR81/160L	3538		
		155	9	345	1,10	MA62/132S MR62/132S	2836	186	7,5			769	1,17	MA72/160L MR72/160L	3048		
10	7,5	24	59	2983	1,05	MA91/132M MR91/132M	5916	25	18,5			23	60	493	1,08	MA121/180M MR121/180M	6019
		28	50	2557	1,14	MA91/132M MR91/132M	5017					26	53	6884	1,19	MA121/180M MR121/180M	53110
		32	43	2237	1,21	MA91/132M MR91/132M	4318					36	39	4972	1,09	MA111/180M MR111/180M	39111,5
		34	41	2105	1,03	MA81/132M MR81/132M	4117					42	33	4261	1,07	MA101/180M MR101/180M	33111,5
		40	35	1790	1,09	MA81/132M MR81/132M	3518					54	26	3977	1,05	MA101/180L MR101/180L	5228
		46	30	1556	1,2	MA81/132M MR81/132M	6025					116	12	1543	1,01	MA91/160L MR91/160L	3739
		68	20,5	1053	1,19	MA72/132M MR72/132M	4126					155	9	1154	1,01	MA81/180M MR81/180M	3548
12,5	9,2	38	37	2355	1,01	MA91/132M MR91/132M	3719					30	22	23	60	9339	1,22
		42	33	2130	1,10	MA91/132M MR91/132M	33110			31	45			6929	1,12	MA121/180L MR121/180L	45111,5
		58	24	1543	1,14	MA81/132M MR81/132M	4826			36	39			5966	1,23	MA121/180L MR121/180L	39113
		68	20,5	1361	1,18	MA81/132M MR81/132M	4127			41	34			5239	1,0	MA111/180L MR111/180L	34113
		93	15	962	1,15	MA72/132M MR72/132M	3028			46	30			4669	1,07	MA111/180L MR111/180L	6028
15	11	20	69	5370	1,31	MA111/160M MR111/160M	6917			54	26			3977	1,19	MA111/180L MR111/180L	5229
		23	60	4669	1,19	MA101/160M MR101/160M	6017			61	23			3521	1,25	MA111/180L MR111/180L	46210

POTENCIA POWER		V.SAIDA OUTPUT	RAZAO RATIO	M2	F.S	TIPO TYPE	N.FABRICO ORDER NUMBER	POTENCIA POWER		V.SAIDA OUTPUT	RAZAO RATIO	M2	F.S	TIPO TYPE	N.FABRICO ORDER NUMBER				
CV	KW	r.p.m.	i	(Nm)				CV	KW	r.p.m.	i	(Nm)							
30	22	70	20	3068	1,3	MA101/180L MR101/180L	40210	60	45	57	24,5	7536	1,07	MA131/225M MR131/225M	49212				
		175	8	1227	1,13	MA91/180L MR91/180L	33410			70	20	6137	1,07	MA131/225M MR131/225M	60310				
40	30	27	51	10607	1,02	MA131/200L MR131/200L	51111,5			72	19,5	5966	1,01	MA121/225M MR121/225M	39213				
		32	44	8950	1,09	MA131/200L MR131/200L	44113			82	17	5239	1,06	MA121/225M MR121/225M	53310				
		41	34	6985	1,01	MA121/200L MR121/200L	34114			96	14,5	4475	1,25	MA121/225M MR121/225M	44311,5				
		46	30	6226	1,08	MA121/200L MR121/200L	6029			107	13	4014	1,01	MA111/225M MR111/225M	5249				
		53	26,5	5403	1,21	MA121/200L MR121/200L	53210			122	11,5	3521	1,10	MA101/225M MR101/225M	46410				
		72	19,5	3977	1,14	MA111/200L MR111/200L	39211,5			140	10	3068	1,11	MA101/225M MR101/225M	40410				
		82	17	3492	1,11	MA101/200L MR101/200L	34211,5			165	8,5	2600	1,24	MA101/225M MR101/225M	34411,5				
		93	15	3079	1,21	MA101/200L MR101/200L	4539			75	55	96	14,5	5593	1,26	MA131/250M MR131/250M	44313		
		50	37	26	39	11015	1,24					MA131/225S MR131/225S	39114	107	13	5018	1,09	MA111/250M MR111/250M	39313
				42	33	2130	1,10					MA131/225S MR131/225S	34213	165	8,5	3254	1,16	MA111/250M MR111/250M	34413
46	30			7782	1,14	MA131/225S MR131/225S	60210			100	75	127	11	5637	1,18	MA131/280S MR131/280S	44413		
62	22,5			5774	1,08	MA121/225S MR121/225S	45211,5					140	10	5114	1,03	MA121/280S MR121/280S	39413		
107	13			4365	1,06	MA101/225S MR101/225S	40310	165	8,5			4339	1,16	MA121/280S MR121/280S	34414				
127	11			2818	1,18	MA101/225S MR101/225S	4549	125	90			140	10	6392	1,02	MA131/280M MR131/280M	39414		
130	15			2753	1,09	MA111/225S MR111/225S	46310												

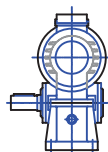
VERSAO

VERSION

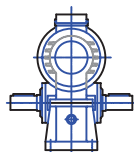
MA...  
MA...C



N

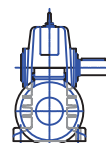


S

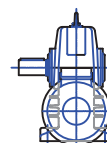


D

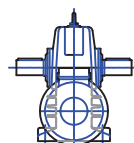
MR...  
MR...C



N



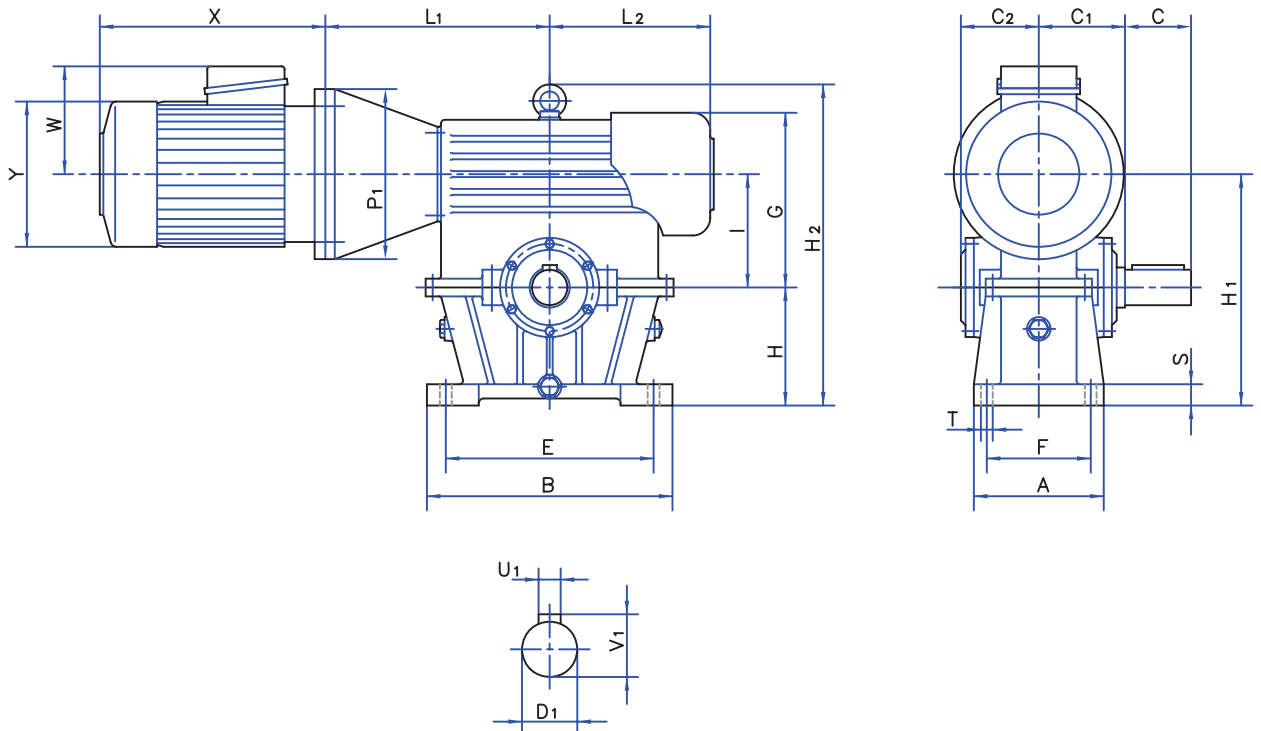
S



D

MOTO-REDUTORES TIPO MA...

MOTORIZED GEARBOXES TYPE MA...

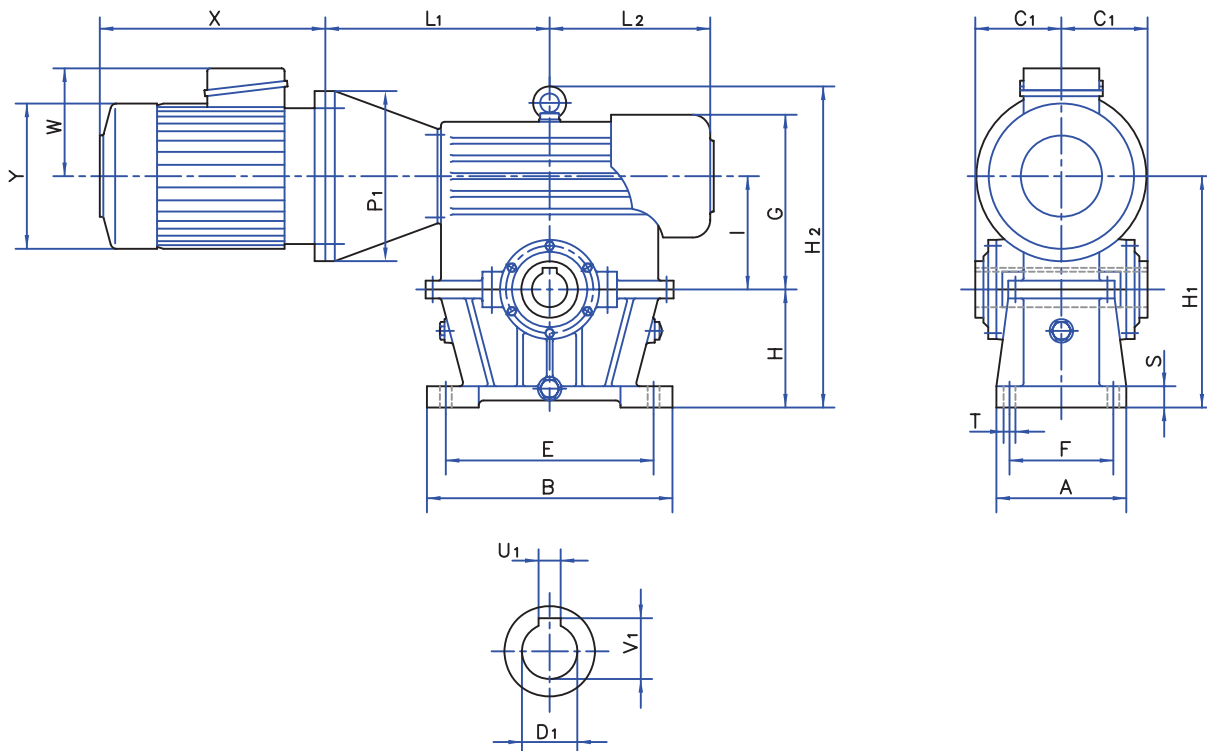


TIPO TYPE	A	B	C	C1	C2	D1 k6	E	F	G	H	H1	H2	I	L1	L2	P1	S	T	U1	V1	W	X	Y
MA62/90S														282		200					126	255	178
MA62/90L														282		200					126	280	178
MA62/100L	160	280	80	101.5	97	45	245	125	182	130	243.3	350	113.3	292	146	250	20	15	14	48.5	138	305	194
MA62/112M														292		250					155	332	220
MA62/132S														312		300					176	382	262
MA72/112M														333		250					155	332	220
MA72/132S														353		300					176	382	262
MA72/132M	180	420	90	115	116	52	325	130	233	180	332	460	152	353	185	300	32	18	16	55.8	176	420	262
MA72/160M														383		350					234	491	316
MA72/160L														383		350					234	536	316
MA81/132S														391.5		300					176	382	262
MA81/132M														391.5		300					176	420	262
MA81/160M	230	450	120	129	125	58	350	180	273	200	372.5	520	172.5	421.5	221	350	35	18	16	61.8	234	491	316
MA81/160L														421.5		350					234	536	316
MA81/180M														421.5		350					246	555	360
MA91/132M														424		300					176	420	262
MA91/160M														454		350					234	491	316
MA91/160L	247	490	135	135.5	139	62	430	195	315	252	457	607	205	454	325	350	43	20	18	66.2	234	536	316
MA91/180M														454		350					246	555	360
MA91/180L														454		350					246	597	360
MA101/160M														495		350					234	491	316
MA101/160L														495		350					234	536	316
MA101/180M	270	550	155	159	145	70	440	205	380	265	505	675	240	495	372	350	45	24	20	74.6	246	555	360
MA101/180L														495		350					246	597	360
MA111/160M														544		350					234	491	316
MA111/160L														544		350					234	536	316
MA111/180M	310	630	180	167	162	80	510	235	413	300	573	750	273	544	408	350	52	28	22	85.5	246	555	360
MA111/180L														544		350					246	597	360
MA121/160L														590.5		350					234	491	316
MA121/180M	350	710	195	185	180	90	625	260	472	325	632	820	307	590.5	470	350	60	35	25	95.3	234	536	316
MA121/180L														590.5		350					246	555	360
MA131/180L	522	826	220	250	242	110	598	432	541	381	722	951	341	661	522	350	60	42	28	116.1	246	555	360
MA131/200L														661		400					306	665	460

TABELAS\TRANSMISSOES\VR-SEMIFIM\TAB0101

MOTO-REDUTORES TIPO MA...O

MOTORIZED GEARBOXES TYPE MA...O

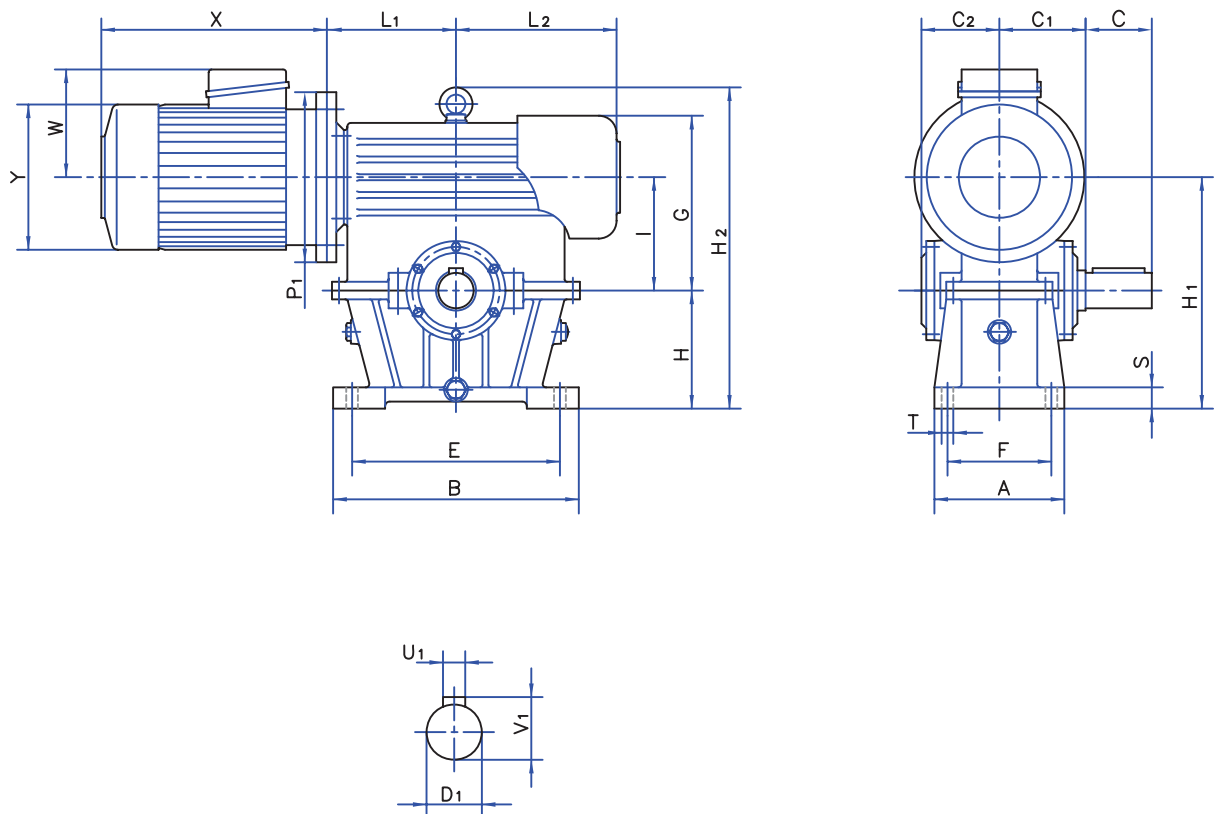


TABELAS\TRANSMISSOES\IR-SEMFIN\TAB0102

TIPO TYPE	A	B	C1	D1 H7	E	F	G	H	H1	H2	I	L1	L2	P1	S	T	U1	V1	W	X	Y
MA62.0/90S												282		200					126	255	178
MA62.0/90L												282		200					126	280	178
MA62.0/100L	160	280	93	40	245	125	182	130	243.3	350	113.3	292	146	250	20	15	12	43.2	138	305	194
MA62.0/112M												292		250					155	332	220
MA62.0/132S												312		300					176	382	262
MA72.0/112M												333		250					155	332	220
MA72.0/132S												353		300					176	382	262
MA72.0/132M	180	420	115	48	325	130	233	180	332	460	152	353	185	300	32	18	14	51.6	176	420	262
MA72.0/160M												383		350					234	491	316
MA72.0/160L												383		350					234	536	316
MA81.0/132S												391.5		300					176	382	262
MA81.0/132M												391.5		300					176	420	262
MA81.0/160M	230	450	129	60	350	180	273	200	372.5	520	172.5	421.5	221	350	35	18	18	64.3	234	491	316
MA81.0/160L												421.5		350					234	536	316
MA81.0/180M												421.5		350					246	555	360
MA91.0/132M												424		300					176	420	262
MA91.0/160M												454		350					234	491	316
MA91.0/160L	247	490	135.5	65	430	195	315	252	457	607	205	454	325	350	43	20	18	69.3	234	536	316
MA91.0/180M												454		350					246	555	360
MA91.0/180L												454		350					246	597	360
MA101.0/160M												495		350					234	491	316
MA101.0/160L	270	550	159	70	440	205	380	265	505	675	240	495	372	350	45	24	20	74.7	234	536	316
MA101.0/180M												495		350					246	555	360
MA101.0/180L												495		350					246	597	360
MA111.0/160M												544		350					234	491	316
MA111.0/160L	310	630	167	80	510	235	413	300	573	750	273	544	408	350	52	28	22	85.6	234	536	316
MA111.0/180M												544		350					246	555	360
MA111.0/180L												544		350					246	597	360
MA121.0/160L												590.5		350					234	491	316
MA121.0/180M	350	710	185	90	625	260	472	325	632	820	307	590.5	470	350	60	35	25	95.4	234	536	316
MA121.0/180L												590.5		350					246	555	360
MA131.0/180L	522	826	250	110	598	432	541	381	722	951	341	661	522	350	60	42	28	116.2	246	555	360
MA131.0/200L												661		400					306	665	460

MOTO-REDUTORES TIPO MA...C

MOTORIZED GEARBOXES TYPE MA...C

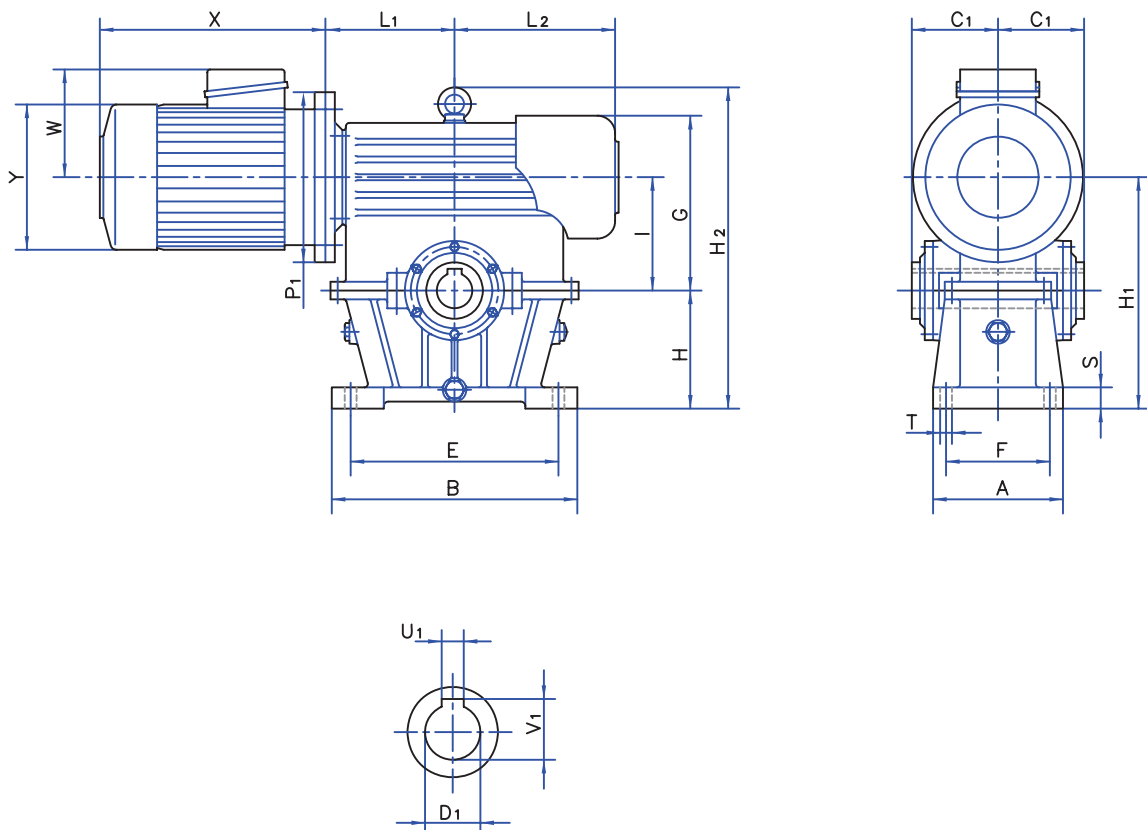


TABELAS\TRANSMISSOES\R--SEMFI\TAB0112

TIPO TYPE	A	B	C	C1	C2	D1 k6	E	F	G	H	H1	H2	I	L1	L2	P1	S	T	U1	V1	W	X	Y
MA62C/90S														152		200					126	255	178
MA62C/90L														152		200					126	280	178
MA62C/100L	160	280	80	101.5	97	45	245	125	182	130	243.3	350	113.3	152	146	250	20	15	14	48.5	138	305	194
MA62C/112M														152		250					155	332	220
MA62C/132S														168		300					176	382	262
MA72C/112M														195		250					155	332	220
MA72C/132S														195		300					176	382	262
MA72C/132M	180	420	90	115	116	52	325	130	233	180	332	460	152	195	185	300	32	18	16	55.8	176	420	262
MA72C/160M														195		350					234	491	316
MA72C/160L														195		350					234	536	316

MOTO-REDUTORES TIPO MA...CO

MOTORIZED GEARBOXES TYPE MA...CO

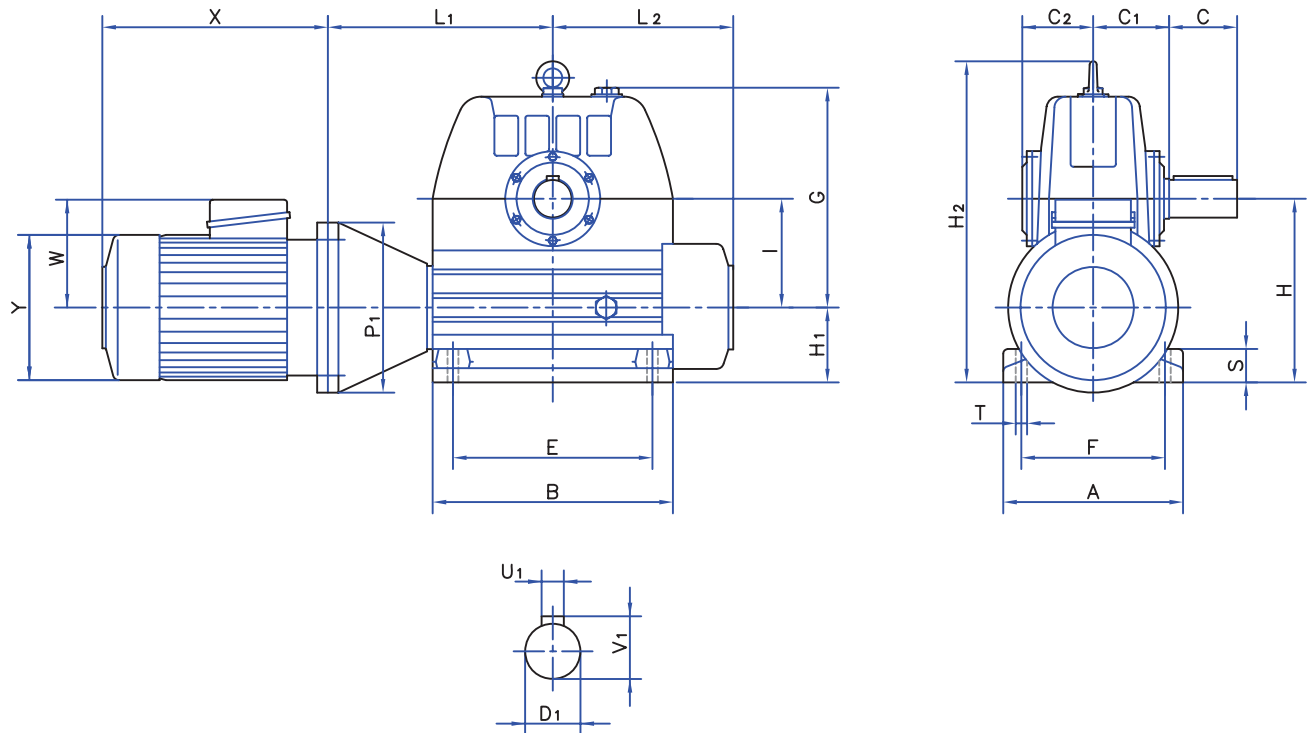


TABELAS\TRANSMISSOES\R--SEMFIN\TAB0113

TIPO TYPE	A	B	C1	D1 H7	E	F	G	H	H1	H2	I	L1	L2	P1	S	T	U1	V1	W	X	Y
MA62CO/90S												152		200					126	255	178
MA62CO/90L												152		200					126	280	178
MA62CO/100L	160	280	93	40	245	125	182	130	243.3	350	113.3	152	146	250	20	15	12	43.2	138	305	194
MA62CO/112M												152		250					155	332	220
MA62CO/132S												168		300					176	382	262
MA72CO/112M												195		250					155	332	220
MA72CO/132S												195		300					176	382	262
MA72CO/132M	180	420	115	48	325	130	233	180	332	460	152	195	185	300	32	18	14	51.6	176	420	262
MA72CO/160M												195		350					234	491	316
MA72CO/160L												195		350					234	536	316

MOTO-REDUTORES TIPO MR...

MOTORIZED GEARBOXES TYPE MR...

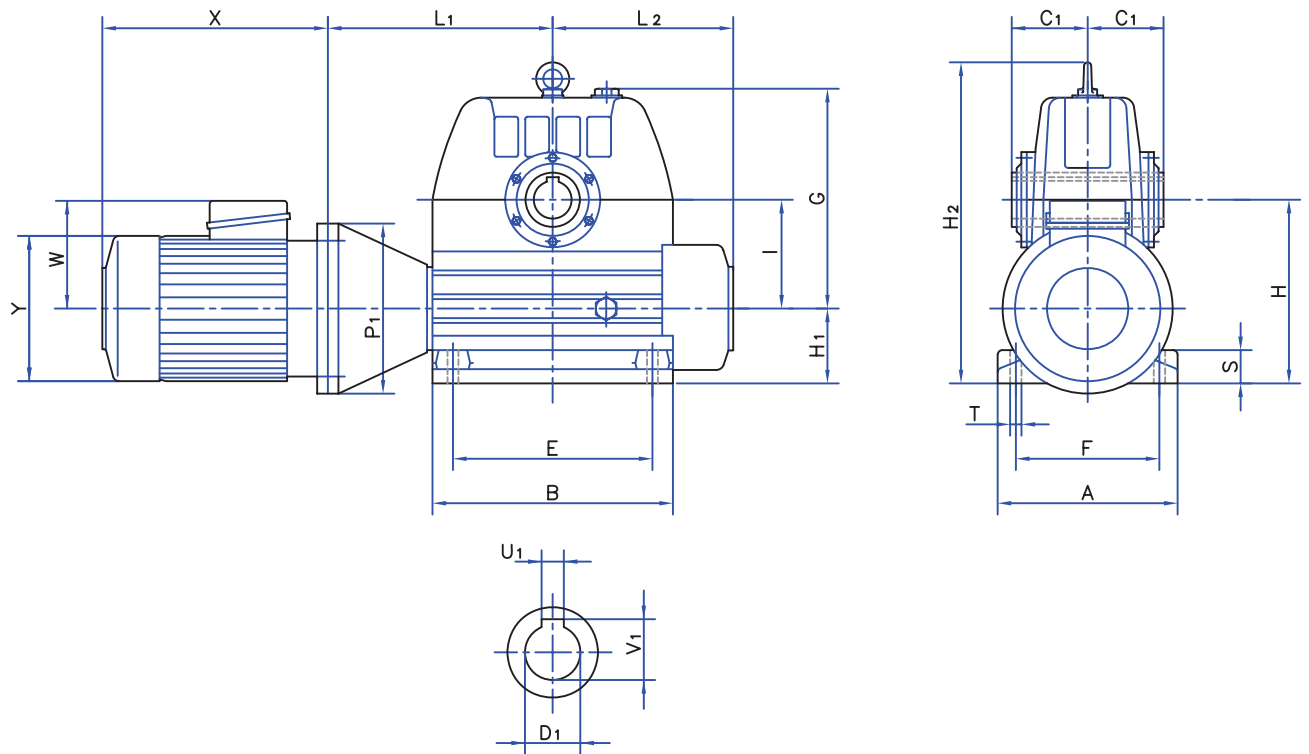


TABELAS\TRANSMISSOES\VR-SEMFINAR\TAB0100

TIPO TYPE	A	B	C	C1	C2	D1 k6	E	F	G	H	H1	H2	I	L1	L2	P1	S	T	U1	V1	W	X	Y
MR62/90S														282		200					126	255	178
MR62/90L														282		200					126	280	178
MR62/100L	240	250	80	101.5	97	45	200	190	254	213.3	100	393	113.3	292	190	250	35	18	14	48.5	138	305	194
MR62/112M														292		250					155	332	220
MR62/132S														312		300					176	382	262
MR72/112M														345		250					155	332	220
MR72/132S														365		300					176	382	262
MR72/132M	260	355	90	115	116	52	260	203	323	269.5	117.5	488	152	365	256	300	35	21	16	55.8	176	420	262
MR72/160M														395		350					234	491	316
MR72/160L														395		350					234	536	316
MR81/132S														421.5		300					176	382	262
MR81/132M														421.5		300					176	420	262
MR81/160M	320	440	120	129	125	58	320	260	363	319.5	147	558	172.5	451.5	325	350	45	21	16	61.8	234	491	316
MR81/160L														451.5		350					234	536	316
MR81/180M														451.5		350					246	555	360
MR91/132M														424		300					176	420	262
MR91/160M														454		350					234	491	316
MR91/160L	340	455	135	135.5	139	62	400	270	426	345	140	613	205	454	325	350	45	21	18	66.2	234	536	316
MR91/180M														454		350					246	555	360
MR91/180L														454		350					246	597	360
MR101/160M														521		350					234	491	316
MR101/160L														521		350					234	536	316
MR101/180M	380	530	155	159	145	70	440	300	496	405	165	708	240	521	398	350	50	25	20	74.6	246	555	360
MR101/180L														521		350					246	597	360
MR111/160M														544		350					234	491	316
MR111/160L														544		350					234	536	316
MR111/180M	430	550	180	167	162	80	475	350	562	458	185	794	273	544	408	350	55	28	22	85.5	246	555	360
MR111/180L														544		350					246	597	360
MR121/160L														590.5		350					234	491	316
MR121/180M	470	610	195	185	180	90	510	380	618	512	205	878	307	590.5	470	350	60	35	25	95.3	234	536	316
MR121/180L														590.5		350					246	555	360
MR131/180L	512	725	220	250	242	110	612	432	708	571	230	1003	341	661	522	350	60	45	28	116.1	246	555	360
MR131/200L														661		400					306	665	460

MOTO-REDUTORES TIPO MR...0

MOTORIZED GEARBOXES TYPE MR...0



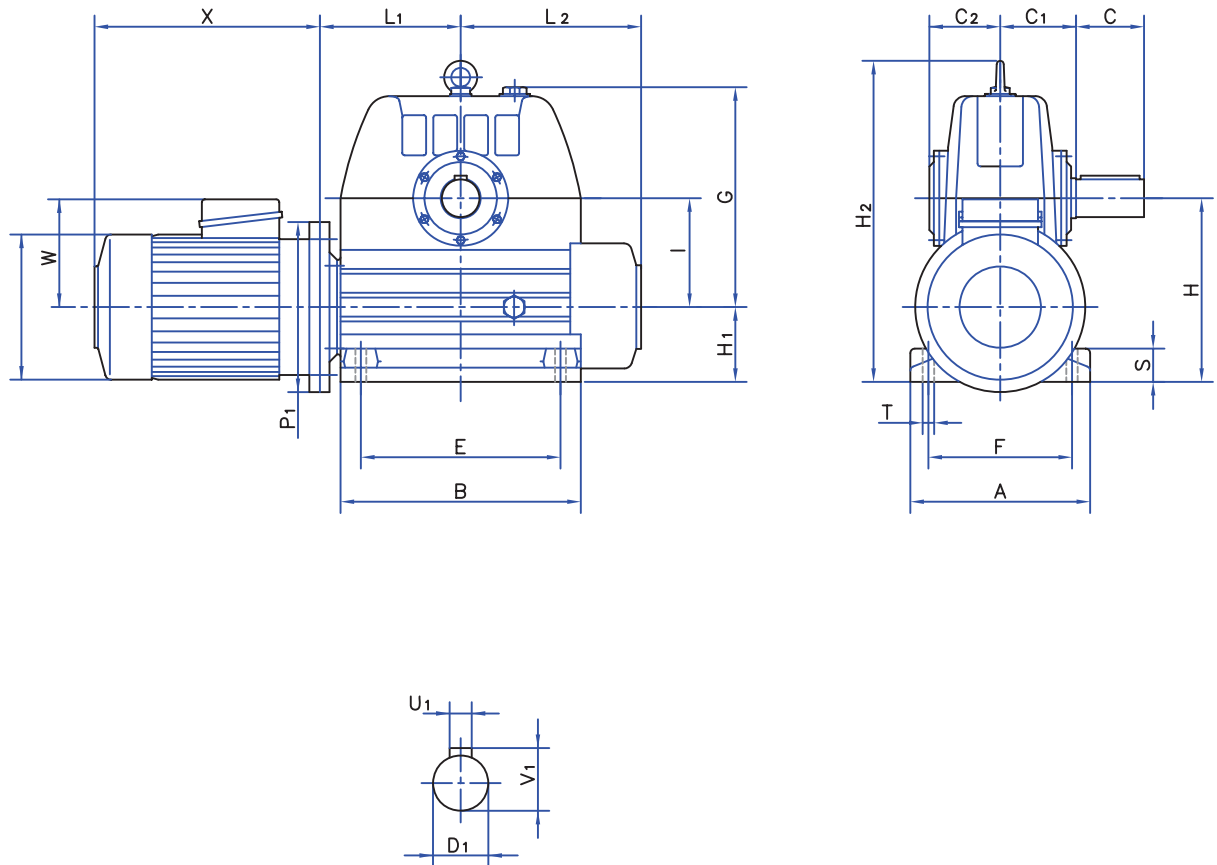
TIPO TYPE	A	B	C1	D1 H7	E	F	G	H	H1	H2	I	L1	L2	P1	S	T	U1	V1	W	X	Y
MR62.0/90S												282		200					126	255	178
MR62.0/90L												282		200					126	280	178
MR62.0/100L	240	250	93	40	200	190	254	213.3	100	393	113.3	292	190	250	35	18	12	43.2	138	305	194
MR62.0/112M												292		250					155	332	220
MR62.0/132S												312		300					176	382	262
MR72.0/112M												345		250					155	332	220
MR72.0/132S												365		300					176	382	262
MR72.0/132M	260	355	115	48	260	203	323	269.5	117.5	488	152	365	256	300	35	21	14	51.6	176	420	262
MR72.0/160M												395		350					234	491	316
MR72.0/160L												395		350					234	536	316
MR81.0/132S												421.5		300					176	382	262
MR81.0/132M												421.5		300					176	420	262
MR81.0/160M	320	440	129	60	320	260	363	319.5	147	558	172.5	451.5	325	350	45	21	18	64.3	234	491	316
MR81.0/160L												451.5		350					234	536	316
MR81.0/180M												451.5		350					246	555	360
MR91.0/132M												424		300					176	420	262
MR91.0/160M												454		350					234	491	316
MR91.0/160L	340	455	135.5	65	400	270	426	345	140	613	205	454	325	350	45	21	18	69.3	234	536	316
MR91.0/180M												454		350					246	555	360
MR91.0/180L												454		350					246	597	360
MR101.0/160M												521		350					234	491	316
MR101.0/160L	380	530	159	70	440	300	496	405	165	708	240	521	398	350	50	25	20	74.7	234	536	316
MR101.0/180M												521		350					246	555	360
MR101.0/180L												521		350					246	597	360
MR111.0/160M												544		350					234	491	316
MR111.0/160L	430	550	167	80	475	350	562	458	185	794	273	544	408	350	55	28	22	85.6	234	536	316
MR111.0/180M												544		350					246	555	360
MR111.0/180L												544		350					246	597	360
MR121.0/160L												590.5		350					234	491	316
MR121.0/180M	470	610	185	90	510	380	618	512	205	878	307	590.5	470	350	60	35	25	95.4	234	536	316
MR121.0/180L												590.5		350					246	555	360
MR131.0/180L	512	725	250	110	612	432	708	571	230	1003	341	661	522	350	60	45	28	116.2	246	555	360
MR131.0/200L												661		400					306	665	460

TABELAS\TRANSMISSOES\R-SEMFIM\RO\_TAB0104



MOTO-REDUTORES TIPO MR...C

MOTORIZED GEARBOXES TYPE MR...C

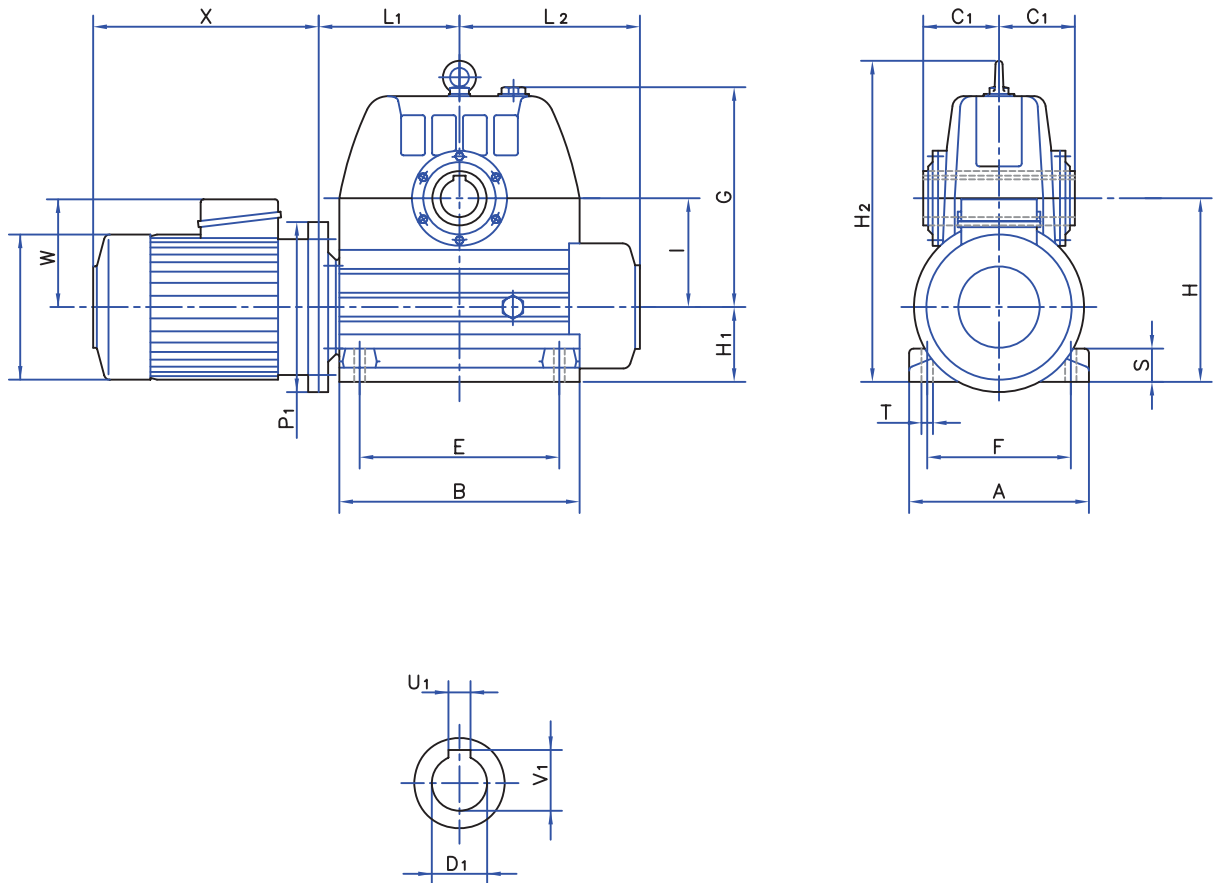


TABELAS\TRANSMISSOES\R--SEMFIM\R\TAB0114

TIPO TYPE	A	B	C	C1	C2	D1 k6	E	F	G	H	H1	H2	I	L1	L2	P1	S	T	U1	V1	W	X	Y
MR62C/90S														152		200					126	255	178
MR62C/90L														152		200					126	280	178
MR62C/100L	240	250	80	101.5	97	45	200	190	254	213.3	100	393	113.3	152	190	250	35	18	14	48.5	138	305	194
MR62C/112M														152		250					155	332	220
MR62C/132S														168		300					176	382	262
MR72C/112M														207		250					155	332	220
MR72C/132S														207		300					176	382	262
MR72C/132M	260	355	90	115	116	52	260	203	323	269.5	117.5	488	152	207	256	300	35	21	16	55.8	176	420	262
MR72C/160M														207		350					234	491	316
MR72C/160L														207		350					234	536	316

MOTO-REDUTORES TIPO MR...CO

MOTORIZED GEARBOXES TYPE MR...CO



TABELAS\TRANSMISSOES\R--SEMFIN\RTAB0115

TIPO TYPE	A	B	C1	D1 H7	E	F	G	H	H1	H2	I	L1	L2	P1	S	T	U1	V1	W	X	Y
MR62CO/90S												152		200					126	255	178
MR62CO/90L												152		200					126	280	178
MR62CO/100L	240	250	93	40	200	190	254	213.3	100	393	113.3	152	190	250	35	18	12	43.2	138	305	194
MR62CO/112M												152		250					155	332	220
MR62CO/132S												168		300					176	382	262
MR72CO/112M												207		250					155	332	220
MR72CO/132S												207		300					176	382	262
MR72CO/132M	260	355	115	48	260	203	323	269.5	117.5	488	152	207	256	300	35	21	14	51.6	176	420	262
MR72CO/160M												207		350					234	491	316
MR72CO/160L												207		350					234	536	316