

# REDUTOR **GD**

Esta classe de redutores de eixo vazado tem baixo custo de instalação, sendo que o movimento é transmitido diretamente pelo eixo do motor sem recorrer à órgãos auxiliares como polias, juntas e demais. A transmissão deste redutor é feita por engrenagens cilíndricas de dentes helicoidais o que proporciona um funcionamento silencioso e constante. Sua característica principal é o alto rendimento.

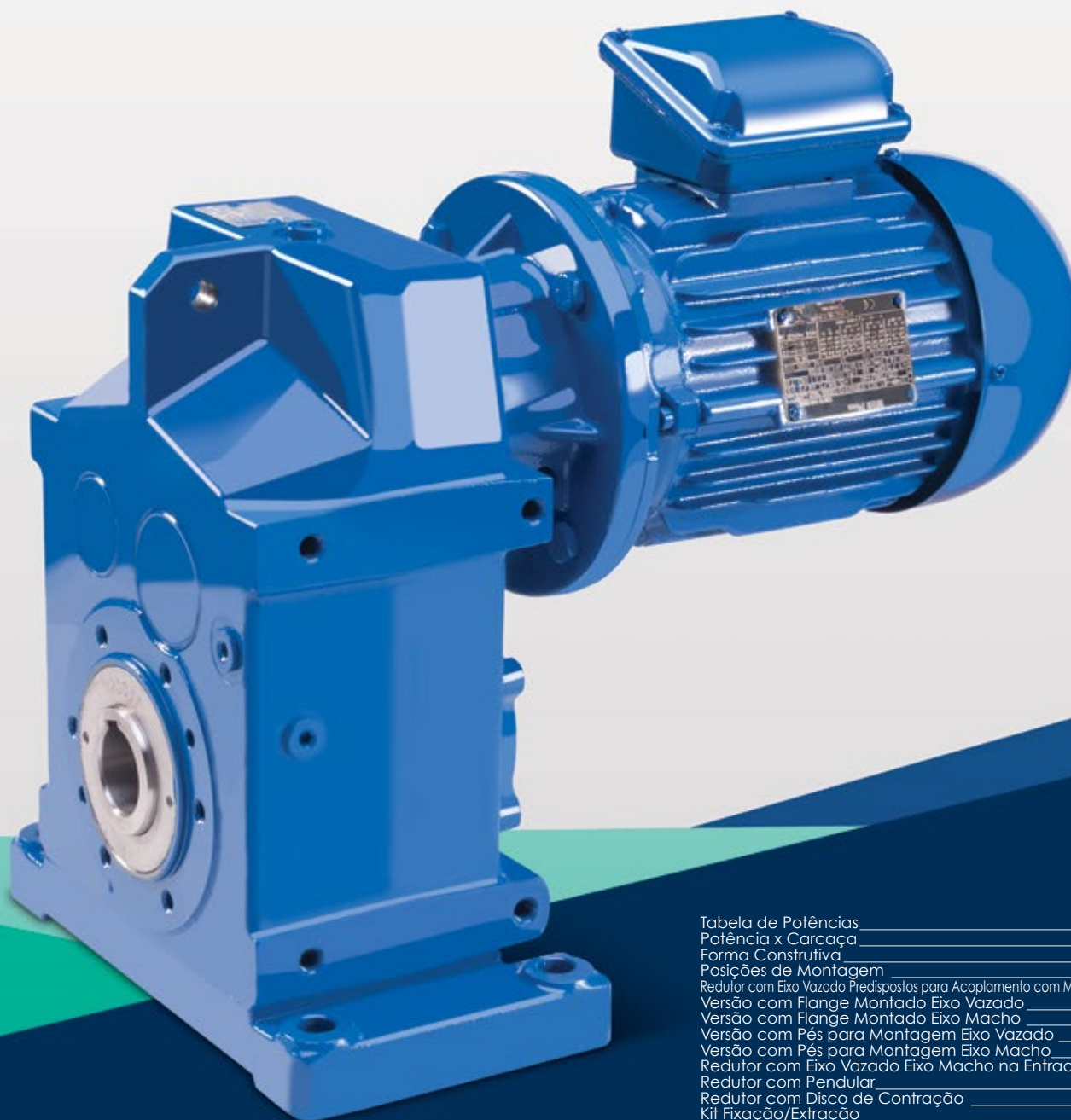


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# TABELA DE POTÊNCIA

MODELO	RED	T Máx. (Nm)	1700 RPM - MOTOR 4P 60 Hz					1400 RPM - MOTOR 4P 50 Hz					1150 RPM - MOTOR 6P 60 Hz					η
			Pe (cv)	Pe (KW)	MT (Nm)	RPM	Fs	Pe (cv)	Pe (KW)	MT (Nm)	RPM	Fs	Pe (cv)	Pe (KW)	MT (Nm)	RPM	Fs	
GD 90/2R	6.64	5280	100.00	75.00	2633	256.2	2.01	75.00	55.00	2398	211.0	2.20	75.00	55.00	2919	173.3	1.81	96%
	7.17	5280	100.00	75.00	2844	237.2	1.86	75.00	55.00	2590	195.3	2.04	75.00	55.00	3153	160.4	1.67	96%
	8.06	5280	100.00	75.00	3197	211.0	1.65	75.00	55.00	2911	173.8	1.81	75.00	55.00	3544	142.7	1.49	96%
	9.08	5280	100.00	75.00	3603	187.2	1.47	75.00	55.00	3281	154.2	1.61	75.00	55.00	3995	126.6	1.32	96%
	10.27	6725	100.00	75.00	4075	165.5	1.65	75.00	55.00	3711	136.3	1.81	75.00	55.00	4518	112.0	1.49	96%
	12.19	7985	100.00	75.00	4837	139.4	1.65	75.00	55.00	4406	114.8	1.81	75.00	55.00	5363	94.3	1.49	96%
	15.37	8200	100.00	75.00	6097	110.6	1.34	75.00	55.00	5553	91.1	1.48	75.00	55.00	6760	74.8	1.21	96%
	18.86	8200	100.00	75.00	7483	90.1	1.10	75.00	55.00	6815	74.2	1.20	50.00	37.00	5531	61.0	1.48	96%
	22.35	8200	75.00	55.00	6652	76.1	1.23	75.00	55.00	8077	62.6	1.02	50.00	37.00	6555	51.4	1.25	96%
	25.29	8200	75.00	55.00	7527	67.2	1.09	60.00	45.00	7312	55.3	1.12	50.00	37.00	7418	45.5	1.11	96%
	27.01	8200	75.00	55.00	8037	62.9	1.02	60.00	45.00	7808	51.8	1.05	50.00	37.00	7921	42.6	1.04	96%
	33.53	8200	60.00	45.00	7982	50.7	1.03	50.00	37.00	8077	41.8	1.02	40.00	30.00	7866	34.3	1.04	94%
GD 90/3R	37.84	8200	50.00	37.00	7507	44.9	1.09	40.00	18.50	7293	37.0	1.12	30.00	22.00	6659	30.4	1.23	94%
	39.76	8200	50.00	37.00	7888	42.8	1.04	40.00	15.00	7663	35.2	1.07	30.00	22.00	6996	28.9	1.17	94%
	46.44	8200	40.00	30.00	7217	36.6	1.14	30.00	11.00	6573	30.1	1.25	30.00	22.00	8001	24.8	1.02	94%
	54.94	8200	30.00	22.00	6404	30.9	1.28	30.00	11.00	7776	25.5	1.05	25.00	18.50	7889	20.9	1.04	94%
	62.03	8200	30.00	22.00	7229	27.4	1.13	25.00	11.00	7315	22.6	1.12	20.00	15.00	7125	18.5	1.15	94%
	70.69	8200	30.00	22.00	8239	24.0	1.00	20.00	9.20	6669	19.8	1.23	20.00	15.00	8119	16.3	1.01	94%
	79.17	8200	25.00	18.50	7689	21.5	1.07	20.00	7.50	7469	17.7	1.10	15.00	11.00	6820	14.5	1.20	94%
	92.47	8200	20.00	15.00	7185	18.4	1.14	15.00	5.50	6543	15.1	1.25	15.00	11.00	7965	12.4	1.03	94%
	109.39	8200	15.00	11.00	6375	15.5	1.29	15.00	5.50	7741	12.8	1.06	12.50	9.20	7853	10.5	1.04	94%
	123.50	8200	15.00	11.00	7197	13.8	1.14	12.50	5.50	7282	11.3	1.13	10.00	7.50	7093	9.3	1.16	94%
	140.74	8200	15.00	11.00	8202	12.1	1.00	10.00	4.00	6639	9.9	1.24	10.00	7.50	8083	8.2	1.01	94%
	161.50	8200	12.50	9.20	7843	10.5	1.05	10.00	4.00	7619	8.7	1.08	7.50	5.50	6956	7.1	1.18	94%
	182.96	8200	10.00	7.50	7108	9.3	1.15	7.50	3.00	6473	7.7	1.27	7.50	5.50	7881	6.3	1.04	94%
	209.79	8200	10.00	7.50	8150	8.1	1.01	7.50	3.00	7423	6.7	1.10	6.00	4.50	7229	5.5	1.13	94%
GD90/3R GA112	218.35	9000	10.00	7.50	8302	7.79	1.08	7.50	5.50	7561	6.41	1.19	6.00	4.5	7364	5.27	1.22	92%
	231.37	9000	10.00	7.50	8797	7.35	1.02	7.50	5.50	8012	6.05	1.12	6.00	4.5	7803	4.97	1.15	92%
	245.02	9000	7.50	5.50	6987	6.94	1.29	7.50	5.50	8484	5.71	1.06	6.00	4.5	8263	4.69	1.09	92%
	296.50	9000	7.50	5.50	8455	5.73	1.06	5.50	4.00	7529	4.72	1.20	5.00	3.7	8333	3.88	1.08	92%
	341.17	9000	6.00	4.50	7783	4.98	1.16	5.50	4.00	8663	4.10	1.04	4.00	3.0	7670	3.37	1.17	92%
	367.84	9000	6.00	4.50	8392	4.62	1.07	4.00	3.00	6793	3.81	1.32	4.00	3.0	8270	3.13	1.09	92%
	434.21	9000	5.00	3.70	8255	3.92	1.09	4.00	3.00	8019	3.22	1.12	3.00	2.2	7322	2.65	1.23	92%
GD90/3R GC45/2R	473.91	10000	5.00	3.70	8814	3.59	1.13	4.00	3.00	8562	2.95	1.17	3.00	2.2	7817	2.43	1.28	90%
	529.74	10000	5.00	3.70	9852	3.21	1.02	4.00	3.00	9571	2.64	1.04	3.00	2.2	8738	2.17	1.14	90%
	629.60	10000	4.00	3.00	9368	2.70	1.07	3.00	2.20	8531	2.22	1.17	2.00	1.5	6924	1.83	1.44	90%
	754.91	10000	3.00	2.20	8424	2.25	1.19	2.00	1.50	6819	1.85	1.47	2.00	1.5	8302	1.52	1.20	90%
	918.66	10000	2.00	1.50	6834	1.85	1.46	2.00	1.50	8299	1.52	1.21	1.50	1.1	7577	1.25	1.32	90%
	1057.61	10000	2.00	1.50	7868	1.61	1.27	2.00	1.50	9554	1.32	1.05	1.50	1.1	8723	1.09	1.15	90%
	1231.92	10000	2.00	1.50	9164	1.38	1.09	1.50	1.10	8346	1.14	1.20	1.00	0.75	6774	0.93	1.48	90%
	1375.21	10000	1.50	1.10	7673	1.24	1.30	1.50	1.10	9317	1.02	1.07	1.00	0.75	7562	0.84	1.32	90%
	1603.48	10000	1.50	1.10	8946	1.06	1.12	1.00	0.75	7242	0.87	1.38	1.00	0.75	8817	0.72	1.13	90%
GD90/3R GC45/3R	2087.31	10000	1.00	0.75	7764	0.81	1.29	1.00	0.75	9428	0.67	1.06	0.75	0.55	8608	0.55	1.16	90%
	2297.59	10000	2.00	1.50	10000 *	0.74	1.00	1.50	1.10	10000 *	0.61	1.00	1.00	0.75	10000 *	0.50	1.00	88%
	3050.64	10000	2.00	1.50	10000 *	0.56	1.00	1.50	1.10	10000 *	0.46	1.00	1.00	0.75	10000 *	0.38	1.00	88%
	3659.77	10000	1.00	0.75	10000 *	0.46	1.00	0.75	0.55	10000 *	0.38	1.00	0.50	0.37	9838	0.31	1.02	88%
	5125.54	10000	1.00	0.75	10000 *	0.33	1.00	0.75	0.55	10000 *	0.27	1.00	0.50	0.37	10000 *	0.22	1.00	88%
	6665.12	10000	1.00	0.75	10000 *	0.26	1.00	0.75	0.55	10000 *	0.21	1.00	0.50	0.37	10000 *	0.17	1.00	88%
8440.42	10000	1.00	0.75	10000 *	0.20	1.00	0.75	0.55	10000 *	0.17	1.00	0.50	0.37	10000 *	0.14	1.00	88%	

\*torque máximo suportado pelo redutor

CERAI CS GSD CSA GSDA GO GA GC GD GA112 CK GH CU MG CMAX



# REDUÇÃO X CARÇAÇA

MODELO	RED	CARÇAÇAS IEC												
		C63	C71	C80	C90	C100	C112	C132	C160	C180	C200	C225	C250	C280
GD20 2R	9.09	OK	OK	OK	OK									
	13.62	OK	OK	OK	OK									
	14.52	OK	OK	OK	OK									
	17.8	OK	OK	OK	OK									
	19.15	OK	OK	OK	OK									
	22.39	OK	OK	OK	OK									
	26.63	OK	OK	OK	OK									
	29.28	OK	OK	OK	OK	OK								
	36.17	OK	OK	OK	OK	OK								
GD20 3R	42.83	OK	OK	OK	OK									
	50.59	OK	OK	OK	OK									
	64.21	OK	OK	OK	OK									
	68.43	OK	OK	OK	OK									
	83.9	OK	OK	OK	OK									
	90.26	OK	OK	OK	OK									
	105.55	OK	OK	OK	OK									
	125.53	OK	OK	OK	OK									
	138.02	OK	OK	OK	OK									
GD30 2R	170.5	OK												
	5.69			OK	OK	OK	OK							
	6.35			OK	OK	OK	OK							
	7.55			OK	OK	OK	OK							
	8.79			OK	OK	OK	OK							
	9.81			OK	OK	OK	OK							
	11.67			OK	OK	OK	OK							
	13.18			OK	OK	OK	OK							
	14.05	OK	OK	OK	OK	OK	OK							
	17.22	OK	OK	OK	OK	OK	OK							
	18.53	OK	OK	OK	OK	OK	OK							
	21.67	OK	OK	OK	OK	OK	OK							
	25.77	OK	OK	OK	OK	OK	OK							
	28.33	OK	OK	OK	OK	OK	OK							
	35	OK	OK	OK	OK	OK	OK							
GD30 3R	45.67	OK	OK	OK	OK	OK								
	52.73	OK	OK	OK	OK	OK								
	56.19	OK	OK	OK	OK	OK								
	68.89	OK	OK	OK	OK	OK								
	74.12	OK	OK	OK	OK	OK								
	86.67	OK	OK	OK	OK	OK								
	94.29	OK	OK	OK	OK	OK								
	103.08	OK	OK	OK	OK	OK								
	113.33	OK	OK	OK	OK	OK								
	140	OK	OK	OK	OK	OK								
GD40 2R	180	OK												
	5.69		OK	OK	OK	OK	OK	OK						
	6.72		OK	OK	OK	OK	OK	OK						
	7.55		OK	OK	OK	OK	OK	OK						
	8.79		OK	OK	OK	OK	OK	OK						
	10.38		OK	OK	OK	OK	OK	OK						
	11.67		OK	OK	OK	OK	OK	OK						
	13.18		OK	OK	OK	OK	OK	OK						
	14.05		OK	OK	OK	OK	OK	OK						
	17.22		OK	OK	OK	OK	OK	OK						
	21.67		OK	OK	OK	OK	OK	OK						
	25.77		OK	OK	OK	OK	OK	OK						
	28.33		OK	OK	OK	OK	OK	OK						
	31.36		OK	OK	OK	OK	OK	OK						
	35		OK	OK	OK	OK	OK	OK						
GD40 3R	46.67		OK	OK	OK	OK	OK	OK						
	52.73		OK	OK	OK	OK	OK	OK						
	56.19		OK	OK	OK	OK	OK	OK						
	68.89		OK	OK	OK	OK	OK	OK						
	86.67		OK	OK	OK	OK	OK	OK						
	103.08		OK	OK	OK	OK	OK	OK						
	113.33		OK	OK	OK	OK	OK	OK						
	125.45		OK	OK	OK	OK	OK	OK						
	140		OK	OK	OK	OK	OK	OK						
	178		OK	OK	OK	OK	OK	OK						
GD50 2R	6.46							OK	OK					
	7.84							OK	OK					
	8.97							OK	OK					
	9.61							OK	OK					
	11.77							OK	OK					
	13.22							OK	OK					
	16.18							OK	OK					
	19.55							OK	OK					
	21.93							OK	OK					
	24.94							OK	OK					
	28.12						OK	OK	OK					
	31.25						OK	OK	OK					
	35.01						OK	OK	OK					
	39.4						OK	OK	OK					
	40.96					OK	OK	OK	OK					
GD50 3R	46.93				OK	OK	OK	OK						
	53.85				OK	OK	OK	OK						
	61.98				OK	OK	OK	OK						
	69.69				OK	OK	OK	OK						
	84.6				OK	OK	OK	OK						
	97.35				OK	OK	OK	OK						
	109.8				OK	OK	OK	OK						
	124.73				OK	OK	OK	OK						
	142.99				OK	OK	OK	OK						
	156.51				OK	OK	OK	OK						
GD60 2R	177.15				OK	OK	OK	OK						
	202.65				OK	OK	OK	OK						
	234.95				OK	OK	OK	OK						
	6.53							OK	OK					
	7.62							OK	OK					
	8.96							OK	OK					
	10.02							OK	OK					
	11.95							OK	OK					
	13.74							OK	OK					
	16.39							OK	OK					
	18.59							OK	OK					
	22.15							OK	OK					
	26.17						OK	OK	OK					
	29.3						OK	OK	OK					
	33.38						OK	OK	OK					
37.38						OK	OK	OK						
45.14						OK	OK	OK						



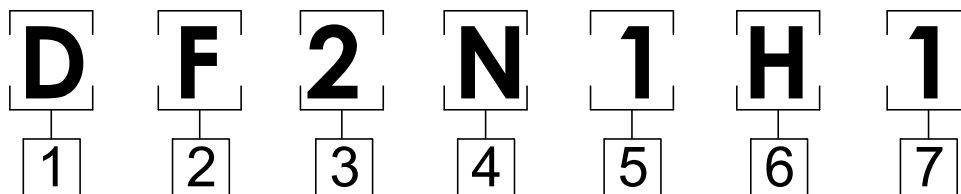
# REDUÇÃO X CARÇAÇA

MODELO	RED	CARÇAÇAS IEC													
		C63	C71	C80	C90	C100	C112	C132	C160	C180	C200	C225	C250	C280	
GD60 3R	53.57				OK	OK	OK	OK							
	60.07				OK	OK	OK	OK							
	67.57				OK	OK	OK	OK							
	76.31				OK	OK	OK	OK							
	86.65				OK	OK	OK	1							
	92.55				OK	OK	OK	1							
	107.03				OK	OK	OK	1							
	121.48			OK	OK	OK	1								
	135.92			OK	OK	OK	1								
	153.25			OK	OK	OK	1								
	174.43			OK	OK	1	1								
	186.88			OK	OK	1	1								
	216.79			OK	OK	1	1								
	255.89			OK	OK	1	1								
280.33			OK	OK	1	1									
GD70 2R	6.94									OK	OK				
	7.62									OK	OK				
	8.9									OK	OK				
	10.64									OK	OK				
	11.67									OK	OK				
	13.5									OK	OK				
	15.77									OK	OK				
	18.65									OK	OK				
	21.06									OK	1				
	24									OK					
	27.54							OK	OK	OK					
	31.2							OK	OK	OK					
	35.78							OK	OK	OK					
	44.18							OK	OK						
51.84							OK	OK							
GD70 3R	63.87					OK	OK	OK							
	66.71					OK	OK	OK							
	79.92					OK	OK	OK							
	92.4					OK	OK	OK							
	108					OK	OK	OK							
	120.76				OK	OK	OK								
	136.08				OK	OK	OK								
	154.8				OK	OK	OK								
	178.2				OK	OK	OK								
	192.24				OK	OK	OK								
	226.8				OK	OK	1								
	6.64										OK	OK	OK	OK	
	7.17										OK	OK	OK	OK	
	8.06										OK	OK	OK	OK	
9.08										OK	OK	OK	OK		
10.27										OK	OK	OK	OK		
12.19										OK	OK	OK	OK		
15.37										OK	OK	OK	OK		
18.86										OK	OK	OK	OK		
22.35										OK	OK	1			
25.29										OK	OK				
27.01										OK	OK				
33.53										OK	OK				
37.84										OK	OK				
39.76										OK	OK				
46.44										OK	OK				
54.94							OK	OK	OK	OK					
62.03							OK	OK	OK						
70.69							OK	OK	OK						
79.17							OK	OK	OK						
92.47							OK	OK	1						
109.39							OK	1	1						
123.5							OK	1	1						
140.74							OK	1	1						
161.5							OK	1	1						
182.96							OK	1	1						
209.79							OK	1	1						
GD100 2R	4.9										OK	OK	OK	OK	
	5.73										OK	OK	OK	OK	
	6.76										OK	OK	OK	OK	
	7.67										OK	OK	OK	OK	
	8.97										OK	OK	OK	OK	
	10.58										OK	OK	OK	OK	
	12.6										OK	OK	OK	OK	
	14.49										OK	OK	OK	OK	
	16.84										OK	OK	OK	OK	
	18.74										OK	OK	OK	OK	
	22.31									OK	OK	OK	OK	OK	
	25.06										OK	OK	OK	OK	
	28.33										OK	OK	OK	1	
	32.15										OK	OK	OK	1	
33.56										OK	OK	OK	1		
37.94										OK	OK	1	1		
43.06										OK	OK	1	1		
51.38										OK	OK	1	1		
59.13										OK	OK	1	1		
68.66										OK	OK	1	1		
76.34									OK	OK	1	1	1		
91.72									OK	OK	1	1	1		
102.61									OK	OK	1	1	1		
117.44									OK	OK	1	1	1		
136.23								OK	OK						
153.98								OK	OK						
164.42								OK	OK						
176.17								OK	1						

OK - É possível utilizar esta carcaça. Para obter a potência específica e torque máximo de cada redução, consultar a tabela de potência.  
 1 - É possível utilizar esta carcaça, porém implicará em fator de serviço menor que 1, ou seja, redutor subdimensionado.  
 - Não é possível esta carcaça para seguinte redução.

GERAL  
GS  
GSD  
GSA  
GSDA  
GO  
GA  
GC  
GD  
GD DUBLASADA  
GD MANGAL  
GK  
GK MANGAL  
GH  
GU  
GU MANGAL  
MG  
GMAX

## FORMA CONSTRUTIVA



**1 REDUTOR**  
D= REDUTOR SÉRIE GD

**2 ENTRADA**  
M= MACIÇO  
F= FLANGE

**3 EIXO DE ENTRADA**  
1= ESQUERDO  
2= DIREITO  
3= PARA CIMA  
4= PARA BAIXO  
5= PARA FRENTE  
6= PARA TRÁS

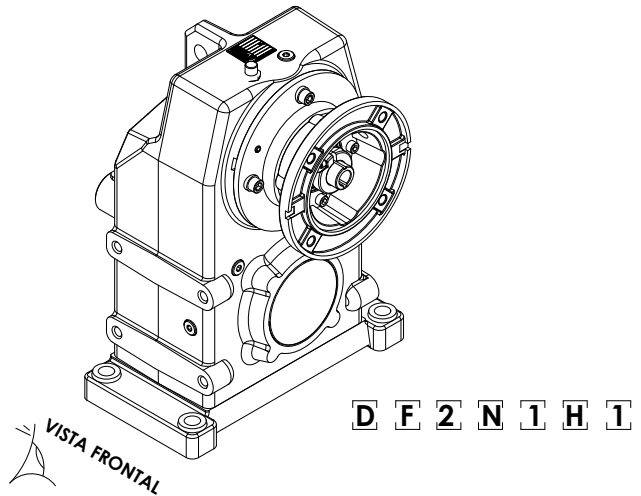
**4 EIXO DE SAÍDA**  
N=EIXO MACIÇO  
V=VAZADO

**5 POSICIONAMENTO EIXO DE SAÍDA**  
0= VAZADO  
1= ESQUERDA  
2= DIREITA  
3= PARA CIMA  
4= PARA BAIXO  
5= VAZADO COM DISCO DE CONTRAÇÃO  
6= PARA FRENTE  
7= PARA TRÁS

**6 POSIÇÃO DO EIXO DE ENTRADA EM RELAÇÃO AO EIXO DE SAÍDA**  
H= EIXO DE ENTRADA HORIZONTAL SUPERIOR  
I= EIXO DE ENTRADA HORIZONTAL INFERIOR  
V= EIXO DE ENTRADA VERTICAL PARA CIMA  
P= EIXO DE ENTRADA VERTICAL PARA BAIXO  
D= EIXO DE ENTRADA HORIZONTAL A DIREITA  
E= EIXO DE ENTRADA HORIZONTAL A ESQUERDA

**7 ACESSÓRIOS**  
1= BASE  
2= TAMPA  
3= FLANGE DE SAÍDA  
4= BASE + FLANGE DE SAÍDA  
5= PENDULAR  
6= TAMPA + FURAÇÃO LATERAL  
7= BASE + FURAÇÃO LATERAL

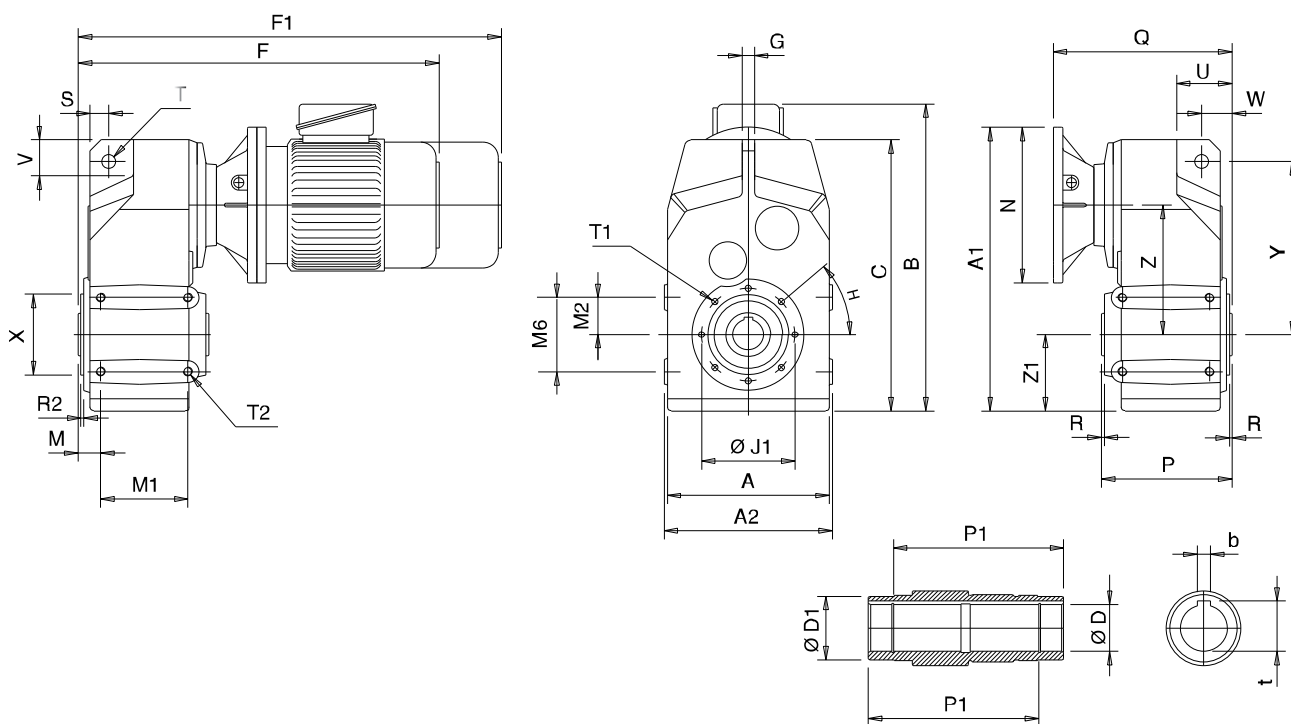
# POSIÇÕES DE MONTAGEM



VISTA FRONTAL	VISTA FRONTAL
<p>DF2N1H1</p>	<p>DF2N1I1</p>
<p>DF5N7E2</p>	<p>DF5N7D2</p>
<p>DF4N3P2</p>	<p>DF3N4V2</p>

Todas as caixas de ligação estão representadas a zero grau tendo como referência a flange de entrada vista de frente.  
 Posição de montagem baseada ns vistas 3D (isométrica).

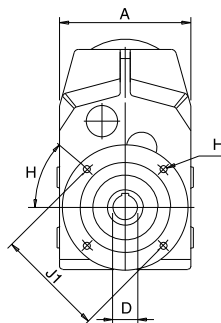
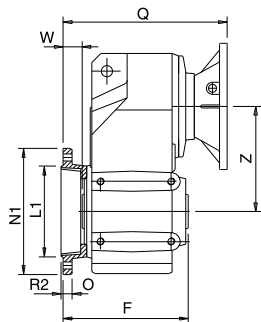
# REDUTORES COM EIXO VAZADO PREDISPOSTOS PARA ACOPLAMENTO COM MOTORES IEC B5 COM FURAÇÕES LATERAIS



TIPO	IEC	A	A1	A2	B	b	C	Ø D <sup>17</sup>	Ø D1	F	F1	G	Ø J1	M	M1	M2	M6	N	P	P1	Q	R	R2	S	T	T1	T2	t	U	V	W	X	Y	Z	Z1	H	
GD 20	63	165	253	170	296	8	233	25	40	357.5	435.5	12	96	18	77	31	115	140	124	106	165.85	4	6	16	14	5xM8	M8	28.3	58	34	28	80	142	113	70	30	
	71		263		304					386	450							160			168																
	80		283		313					414	480							200			178																
	90		283		333					457	520							200			178																
	100		283		333					457	520							200			178																
GD 30	63	172	283	180	326	8	275	30	50	378	422	12	105	27	93	43	135	140	143	124	185.5	4	5	20	14	6xM8	M10	33.3	60	35	33	90	170	128	85	0	
	71		293		334					400	488							160			188																
	80		313		343					424	513							200			198																
	90		313		363					479	578							200			198																
	100		338		373					518	589							250			205																
GD 40	63	212	333	220	374	12	338	40	60	422	510	16	125	33.5	112	60	190	160	183	156	215	5	4	29	14	6xM10	M12	43.3	78	42	41	105	218	153	100	0	
	71		353		383					456	545							200			220																
	80		353		403					501	600							200			220																
	90		378		403					543	614							250			226																
	100		378		433					560	634							250			226																
GD 50	63	260	411	270	453	14	436	50	70	492	590	20	150	37	140	60	120	160	210	183	271	5	5	30	22	8xM10	M14	53.8	90	58	50	130	278	209	123	0	
	71		431		462					524	608							200			281																
	80		431		482					556	663							200			281																
	90		456		492					592	702							250			288																
	100		456		475					609	723							250			288																
GD 60	63	315	509	325	539	18	544	60	85	546	630	26	185	47	160	75	150	200	250	240	315	5	6	34	22	8xM12	M16	64.4	108	65	62	150	346	255	154	0	
	71		509		559					578	685							200			308																
	80		509		559					578	685							200			308																
	90		534		569					614	724							250			315																
	100		534		589					631	775							250			315																
GD 70	63	390	571	404	621	20	626	70	95	640.5	704	30	220	48	205	180	300	200	300	270	361	6	8	36	26	8xM16	M20	74.9	129	83	60	190	395	285	186	0	
	71		596		651					702	776							250			368																
	80		621		678					793	887.5							300			384																
	90		646		741					1068	*							350			476																
	100		671		765					1094	*							400			476																
GD 90	63	442	742	450	799.6	25	760	90	120	829.5	923.5	41	260	69.5	220	125	400	300	400	340	419.5	4	4	36	26	*	M24	95.4	87	91	88	*	485	363.6	229	0	
	71		767		862.6					1040.5	*							350			448.5																
	80		793		886.6					1169	*							400			512																
	90		817		940.6					1249	*							450			542																
	100		817		940.6					1249	*							450			542																
GD 100	63	500	732	530	801.3	28	820	100	135	966.8	1061	35	*	79	270	308	450	300	410	373	557	5	*	44	32	*	M30	106.4	122	100	110	*	550	361.7	220	*	
	71		757		859.6					1145.3	1271.7							350			448.5																
	80		782		896.1					1255.2	*							400			512																
	90		808		985.1					1375	*							450			629																
	100		858		1020.1					1590.1	*							550			660																

- 1 - Para linha GD 90 com eixo maciço ou vazado não existe as furações referentes as letras J1, H, T1
- 2 - No caso de aplicação de servo motores entrar em contato com a Geremia Redutores para avaliação da aplicação
- 3 - Nas caixas do GD 20/30/40 quando necessitar de furações laterais, solicitar na hora da compra
- 4 - GD 40 C 132 é aplicado para carcaças aumentadas (motores de 50Hz) e colocar limitador de potência

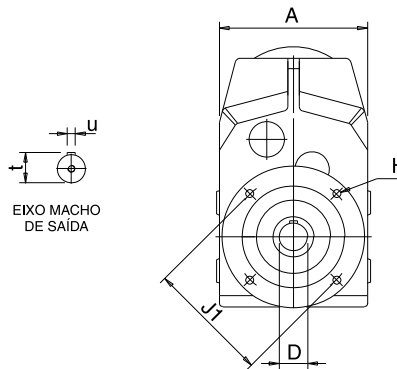
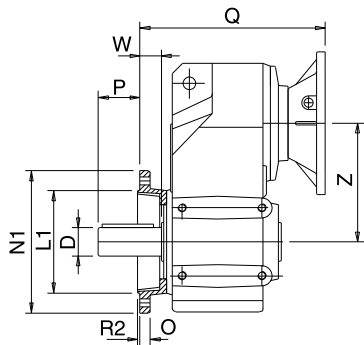
## VERSÃO COM FLANGE MONTADO EIXO VAZADO



TIPO	IEC	A	D	F	H	J1	L1	N1	O	Q	R2	W	Z	H
GD20	63	165	25	136	9	130	110	160	10	177	3,5	11,5	113	45°
	71									179,5				
	80									189,5				
	90									189,5				
										207,5				
GD30	63	172	30	165	11	165	130	200	14	210	3,5	22	128	45°
	71									220				
	80									220				
	90									227				
	100									227				
										231				
GD40	71	212	40	205	14	215	180	250	16	241	4	21	153	45°
	80									241				
	90									248				
	100									248				
	112									248				
	132									281				

TIPO	IEC	A	D	F	H	J1	L1	N1	O	Q	R2	W	Z	H
GD50	71	260	50	248	14	215	180	250	18	308	4	37	209	45°
	80									318				
	90									325				
	100									342				
										342				
GD60	80	315	60	268	18	300	250	350	20	335	5	27	255,5	45°
	90									342				
	100									342				
										359				
										435				
										435				
GD70	90	390	70	342	18	400	350	450	22	402,5	5	41,5	285	0°
	100/120									409,5				
	132									425				
	160/180									517,5				
GD90	200	442	90	391	18	400	350	450	25	517,5	5	41	363,6	22,5°
	132									460,5				
	160/180									489,5				
	200									553				
	225									583				
	248									608				
GD100	160/180	500	100	461	17,5	500	450	550	30	642,7	5	51	361,7	22,5°
	200									650				
	225									680				
	250/280									711				

## VERSÃO COM FLANGE MONTADO EIXO MACHO

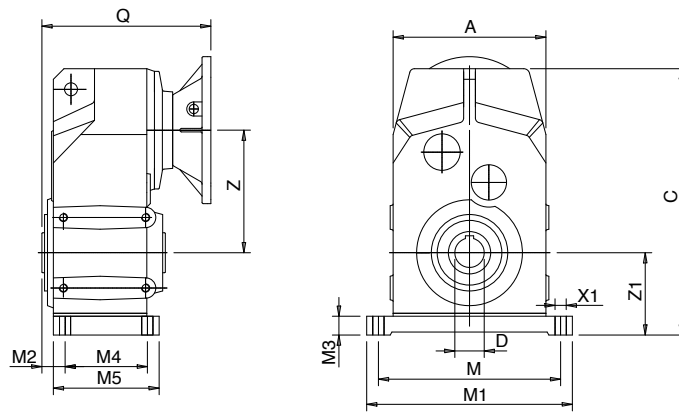


TIPO	IEC	A	D	H	J1	L1	N1	O	P	Q	R2	t	u	W	Z
GD20	63	165	25	9	130	110	160	10	38,5	177	3,5	28	8	11,5	113
	71									179,5					
	80									189,5					
	90									189,5					
										207,5					
GD30	71	172	30	11	165	130	200	14	38	210	3,5	33	8	22	128
	80									220					
	90									220					
	100									227					
	112									227					
										231					
GD40	71	212	40	14	215	180	250	16	58	241	4	43	12	21	153
	80									241					
	90									241					
	100									248					
	112									248					
	132									281					

TIPO	IEC	A	D	H	J1	L1	N1	O	P	Q	R2	t	u	W	Z
GD50	71	260	50	14	215	180	250	18	73	308	4	53,5	14	37	209
	80									318					
	90									318					
	100									325					
										342					
GD60	80	315	60	18	300	250	350	20	113	335	5	64	18	27	255,5
	90									342					
	100									342					
										359					
										435					
										435					
GD70	90	390	70	18	400	350	450	22	98,5	402,5	5	74,5	20	41,5	285
	100/120									409,5					
	132									425					
	160/180									517,5					
GD90	200	442	90	18	400	350	450	25	170	517,5	5	95	25	0	363,6
	132									460,5					
	160/180									489,5					
	200									553					
	225									583					
	248									608					
GD100	160/180	500	110	17,5	500	450	550	30	162	642,7	5	116	28	48	361,7
	200									650					
	225									680					
	250/280									711					

1 - Para linha GD 20/30/40/50/60, J1 com 4 furos equidistantes  
2 - Para linha GD 70/90, J1 com 8 furos equidistantes

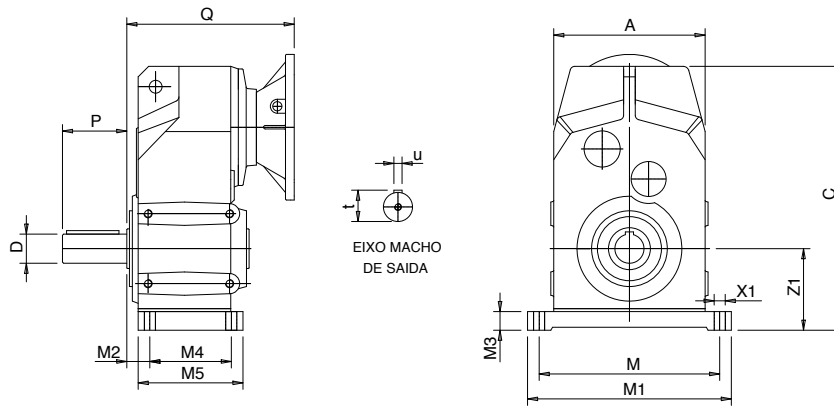
## VERSÃO COM PÉS PARA MONTAGEM EIXO VAZADO



TIPO	IEC	A	C	D	M	M1	M2	M3	M4	M5	Q	Z	Z1	X1
GD 20	63	165	240	25	192	215	28	17	90	120	165,85	113	77	11
	71										168			
	80										178			
	90										178			
GD 30	63	172	280	30	210	240	30	25	95	128	185,5	128	90	13
	71										188			
	80										198			
	90										198			
	100										205			
GD 40	71	212	353	40	260	300	29	35	125	164	209	153	115	17
	80										219			
	90										219			
	100										226			
	112										226			
	132										260			

TIPO	IEC	A	C	D	M	M1	M2	M3	M4	M5	Q	Z	Z1	X1
GD 50	80	260	453	50	310	350	40	37	140	180	280,25	209	140	19
	90										280,25			
	100										288			
	112										288			
GD 60	80	315	570	60	380	440	43	50	160	200	308	255,5	180	19
	90										308			
	100										315			
	112										315			
	132										332			
	160										408			
180	408													

## VERSÃO COM PÉS PARA MONTAGEM, EIXO MACHO

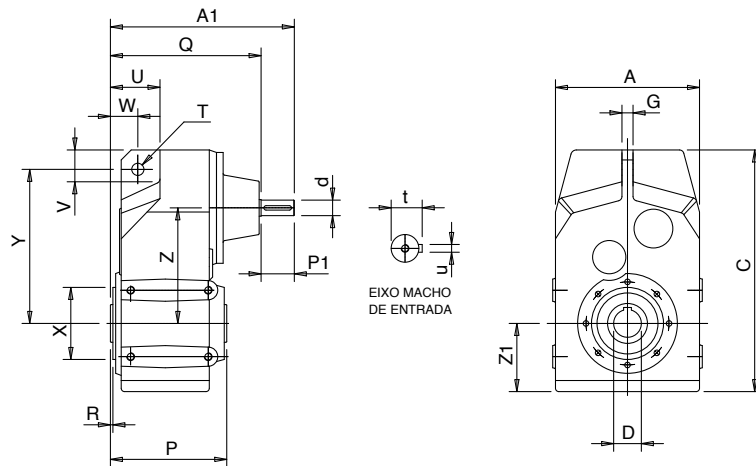


TIPO	IEC	A	C	D	M	M1	M2	M3	M4	M5	P	Q	t	u	Z1	X1
GD 20	63	165	240	25	192	215	28	17	90	120	50	166	113	8	77	11
	71											168,5				
	80											178,5				
	90											178,5				
GD 30	63	172	280	30	210	240	30	25	95	128	60	185,5	33	8	90	13
	71											188				
	80											198				
	90											198				
	100											205				
GD 40	71	212	353	40	260	300	29	35	125	164	80	209	43	12	115	17
	80											219				
	90											219				
	100											226				
	112											226				
	132											260				

TIPO	IEC	A	C	D	M	M1	M2	M3	M4	M5	P	Q	t	u	Z1	X1
GD 50	80	260	453	50	310	350	40	37	140	180	110	280,25	53,5	14	140	19
	90											280,25				
	100											288				
	112											288				
GD 60	80	315	570	60	380	440	43	50	160	200	140	308	64	18	180	19
	90											308				
	100											315				
	112											315				
	132											332				
	160											408				
180	408															

Redutor modelo GD 70 / GD 90 não possuem base apenas tampa  
Chavetas e ranhuras ver: NBR 6375

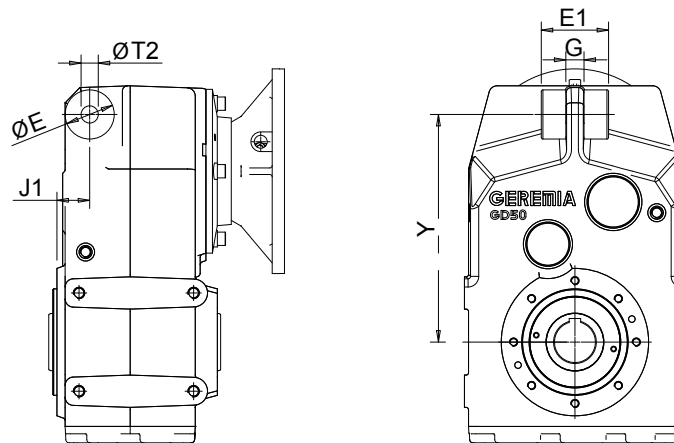
## REDUTOR COM EIXO VAZADO EIXO MACHO NA ENTRADA



TIPO	A	A1	C	d <sup>h6</sup>	D <sup>H7</sup>	G	P	P1	Q	R	T	t	U	u	V	W	X	Y	Z	Z1
GD 20	165	201	233	19	25	12	124	40	161	4	14	21,5	58	6	34	28	80	142	113	70
GD 30	172	234	275	19	30	12	143	40	194	4	14	21,5	60	6	35	33	90	170	128	85
GD 40	212	264	338	24	40	16	183	50	214	5	14	27	78	8	42	41	105	218	153	100
GD 50	260	336,7	436	28	50	20	210	60	276,7	5	22	31	90	8	58	50	130	278	209	123
GD 60	315	351,5	544	28	60	26	240	60	291,5	5	22	31	108	8	65	62	150	346	255,5	154
GD 70	390	501,7	626	42	70	30	300	110	391,7	6	26	45	129	12	83	60	190	395	285	186
GD 90	442	505,7	760	48	90	41	350	110	395,7	4	26	51,5	139	14	91	88	-	485	363,3	229
GD100	500	669,05	820	55	100	43	410	110	559,05	5	32	106,4	188	28	100	110	-	550	361,77	220

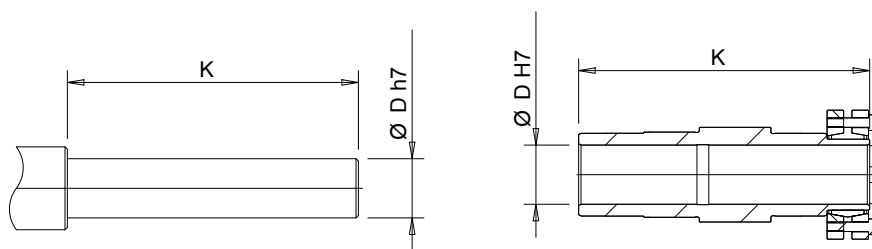
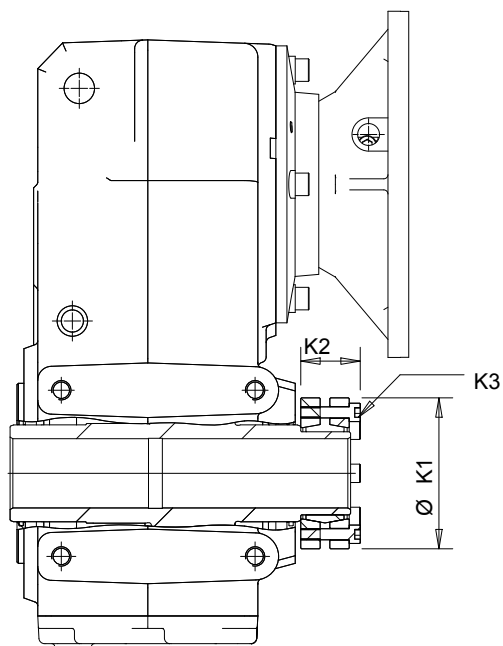
Chavetas e ranhuras ver: NBR 6375  
Consultar assistência técnica sobre cargas radiais admissíveis

## REDUTOR COM PENDULAR



TIPO	E	E1	G	T2	Y	J1
GD 20	40	52	12	12,5	142	18
GD 30	40	53	13	12,5	170	24
GD 40	40	58	16	12,5	218	32
GD 50	60	80	20	21	278	40
GD 60	60	86	26	21	346	51
GD 70	80	110	30	25	395	46
GD 90	80	120	40	25	485	80
GD100	100	163	43	32	550	110

# REDUTOR COM DISCO DE CONTRAÇÃO



EIXO DO CLIENTE

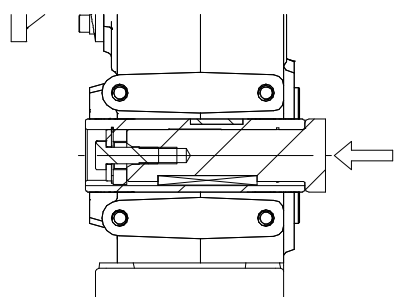
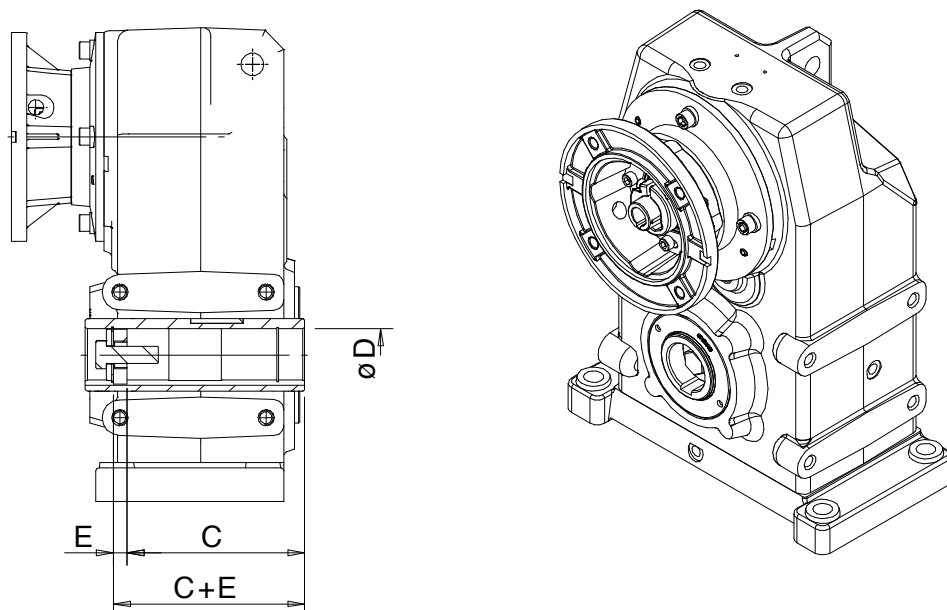
EIXO DO REDUTOR

TIPO	D	K	Ø K1	K2	K3	Mp (Nm)
GD 20	25	151,5	72	27,5	M6	4
GD 30	30	175	72	27,5	M6	12
GD 40	40	215	90	31,5	M6	12
GD 50	50	246	110	34,5	M8	12
	55		118			
GD 60	60	279	145	37,8	M8	30
	65					
GD 70	70	350	155	54,3	M10	30
	75					
GD 90	90	405	185	62,4	M10	59
GD100	105	485	230	68	M12	100

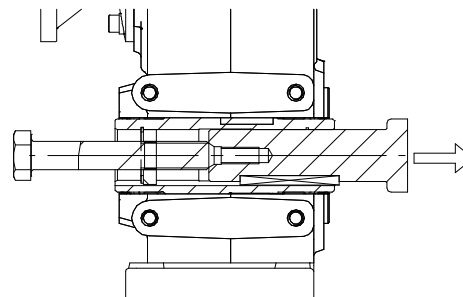
Mp - Torque aplicado por parafuso



# KIT FIXAÇÃO/EXTRAÇÃO



FIXAÇÃO

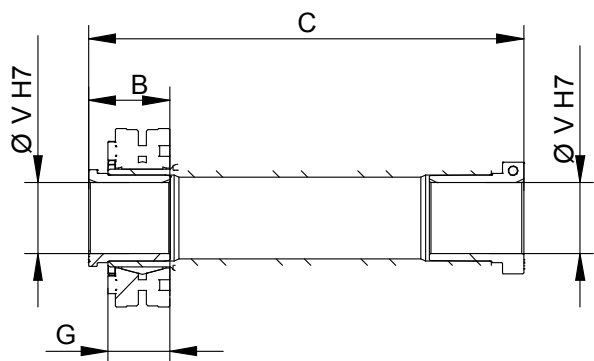
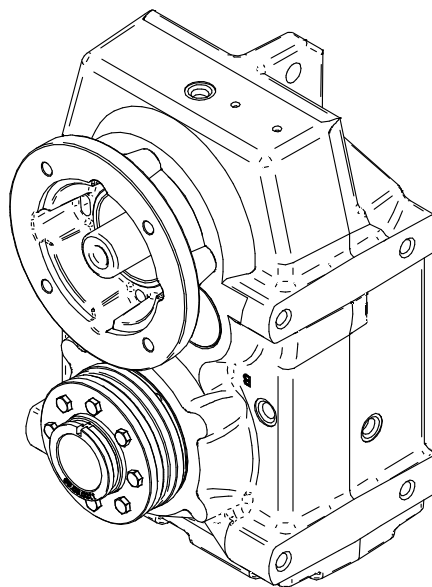
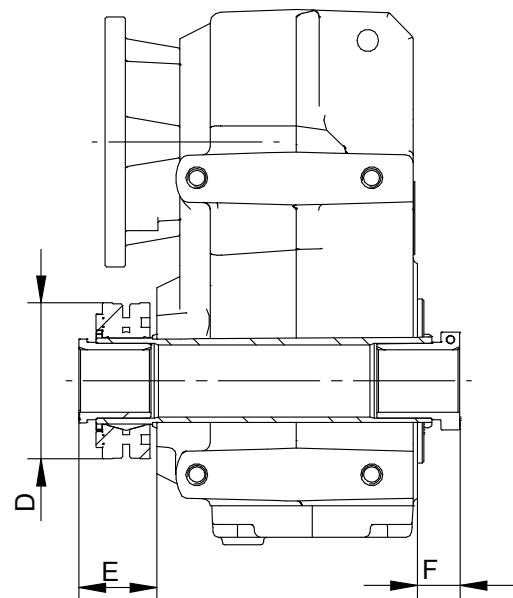


EXTRAÇÃO

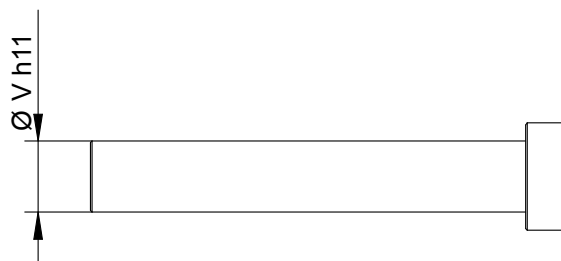
REDUTOR	$\varnothing D^{17}$	C	E	C+E	Kit
GD20	25	99.4	6.3	105.7	KF25
GD30	30	114.5	9.5	124	KF30
GD40	40	143.5	12.7	156.2	KF40
GD50	50	170.3	12.7	183	KF50
GD60	60	194.1	15.9	210	KF60
GD70	70	251.5	15.9	267.4	KF70
GD90	90	280	19	299	KF90
GD100	100	354	19	373	KF100

Para o projeto do eixo o cliente deverá levar em conta as dimensões ( $\varnothing D$  e E) da tabela a cima, já para a fixação do kit, o cliente deverá fazer a furação do eixo com o auxílio da norma DIN332 (página J) e da 'tabela 2' (página K) ambas encontradas na linha Geral do Catálogo GEREMIA.

# G-FIX INOX



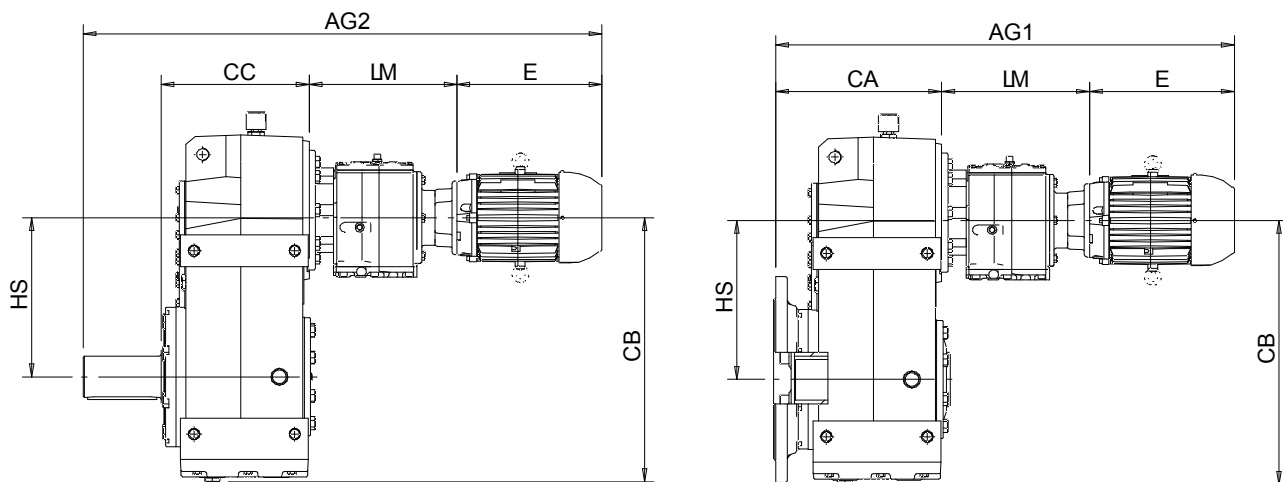
EIXO DO REDUTOR



EIXO DO CLIENTE

REDUTOR	ØV	B	C	D	E	F	G
GD20	25	38.5	180.5	72	42	22.5	27.5
GD30	35	42.5	204	90	46	27	31.5
GD40	40	45.5	244	100	50	27	34.5
GD50	50	45.5	275	115	51	28	34.5
GD60	65	48.8	307.5	145	53.4	29.1	37.8
GD70	75	63.5	379	170	67.15	31.85	52.5
GD90	95	71.2	445.8	215	102.85	31.95	60.4
GD100	105	79	518	230	101	37	68

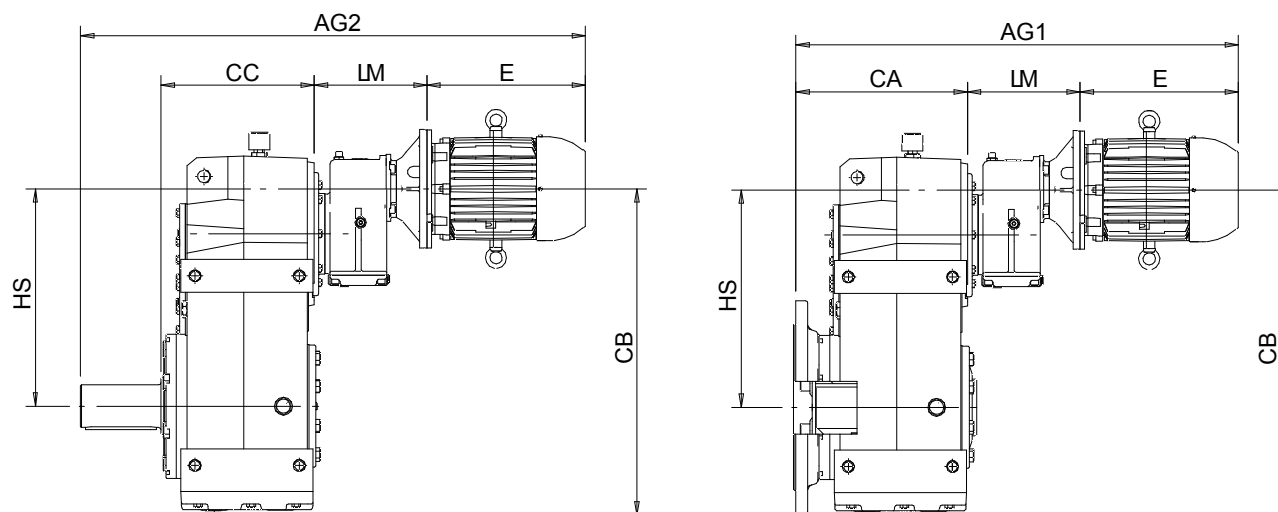
# REDUTOR GD+GC



MODELO	IEC ABNT	E	LM	HS	CB	CA	CC	AG1	AG2
GD30GC15	C63B14	193,3	178,5	122,09	207,09	220	198	591,8	629,8
	C71B14	219	179,5	122,09	207,09	220	198	618,5	656,5
	C80B14	237	190	122,09	207,09	220	198	647	685
GD40GC15	C63B14	193,3	178,5	147,55	247,55	205,3	183,1	577,1	634,9
	C71B14	219	179,5	147,55	247,55	205,3	183,1	603,8	661,9
	C80B14	237	190	147,55	247,55	205,3	183,1	632,3	690,1
GD50GC25	C63B14	193,3	217,25	202,88	325,88	229	192	639,55	712,55
	C71B14	1	218,25	202,88	325,88	229	192	448,25	521,25
	C80B14	237	226,25	202,88	325,88	229	192	692,25	765,25
	C90B14	280	227,25	202,88	325,88	229	192	736,25	809,25
GD60GC35	C71B14	219	243	233	394	238	211,3	700	813,25
	C80B14	237	253	233	394	238	211,3	728	841,25
	C90B14	280	253	233	394	238	211,3	771	884,25
	C100B14	316,1	283	233	394	238	211,3	837,1	950,35
	C112B14	334,1	283	233	394	238	211,3	855,1	968,35
GD70GC35	C71B14	219	236	263	449	322,5	281	777,5	876
	C80B14	237	246	263	449	322,5	281	805,5	904
	C90B14	280	246	263	449	322,5	281	848,8	947
	C100B14	316,1	276	263	449	322,5	281	914,6	1013,1
	C112B14	334,1	276	263	449	322,5	281	932,6	1031,1
GD90GC45	C80B14	237	302,5	346,8	575,8	362	323	901,5	1032,5
	C90B14	280	302,5	346,8	575,8	362	323	944,5	1075,5
	C100B14	316,1	322,5	346,8	575,8	362	323	1000,6	1131,6
	C112B14	334,1	322,5	346,8	575,8	362	323	1018,6	1149,6
	C132B14	434,5	332,5	346,8	575,8	362	323	1129	1260
GD100GC45	C80B14	237	270,5	345,02	565,02	420	372	927,5	1089,5
	C90B14	280	270,5	345,02	565,02	420	372	970,5	1132,5
	C100B14	316,1	290,5	345,02	565,02	420	372	1026,6	1188,6
	C112B14	334,1	290,5	345,02	565,02	420	372	1044,6	1206,6
	C132B14	434,5	300,5	345,02	565,02	420	372	1155	1317

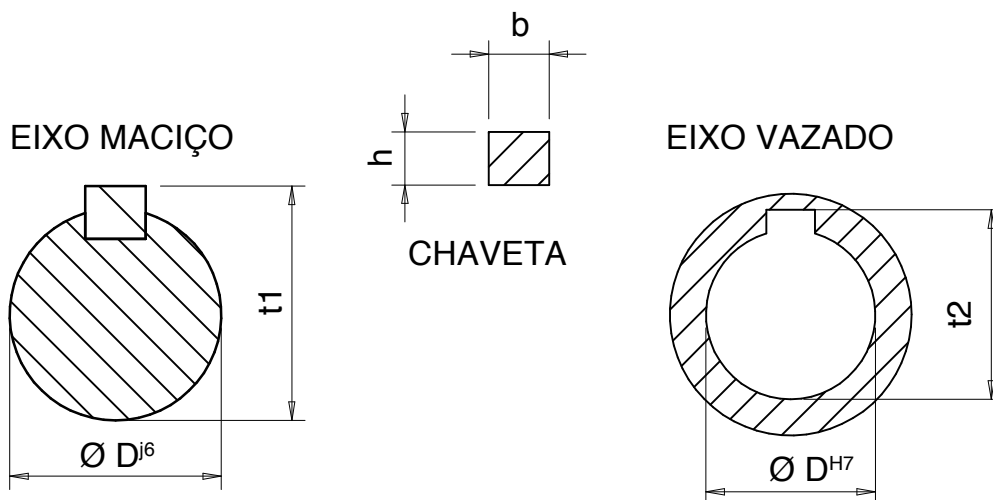
\* 1- Redutor modelo GD90GC45 com flange e eixo de saída maciço aumenta 39mm na medida (AG2 e CC).

## REDUTOR GD+GA



MODELO	IEC ABNT	E	LM	HS	CB	CA	CC	AG1	AG2
GD30GA56	C63B5	193,3	139,5	172,76	257,76	210	188	542,8	580,8
	C71B5	219	142	172,76	257,76	210	188	571	609
	C80B5	237	156,5	172,76	257,76	210	188	603,5	641,5
GD40GA71	C71B5	219	153	204,45	304,45	205,3	183,1	577,3	635,1
	C80B5	237	153	204,45	304,45	205,3	183,1	595,3	653,1
	C90B5	280	153	204,45	304,45	205,3	183,1	638,3	696,1
	C100B5	316,1	160	204,45	304,45	205,3	183,1	681,4	739,2
GD50GA90	C80B5	237	185	271.68	394.68	229	192	651	724
	C90B5	280	185	271.68	394.68	229	192	694	767
	C100/112B5	434.5	192	271.68	394.68	229	192	855.5	928.5
GD60GA90	C80B5	237	185	318	479	238	211.25	660	773.25
	C90B5	280	185	318	479	238	211.25	703	816.25
	C100/112B5	434.5	192	318	479	238	211.25	864.5	977.75
GD70GA112	C90B5	280	234	380	566	322.5	281	836.5	935
	C100/112B5	334.1	241	380	566	322.5	281	897.6	996.1
	C132B5	434.5	255	380	566	322.5	281	1012	1110.5
GD90GA112	C90B5	280	231.1	458.55	687.55	362	323	873.1	1004.1
	C100/112B5	334.1	238.1	458.55	687.55	362	323	934.2	1065.2
	C132B5	434.5	252.1	458.55	687.55	362	323	1048.6	1179.6
GD100GA132	C100/112B5	334.1	254	488.77	708.77	420	372	1008.1	1170.1
	C132B5	434.5	283	488.77	708.77	420	372	1137.5	1299.5
	C160B5	532.65	302.5	488.77	708.77	420	372	1255.15	1417.15

\* 1- Redutor modelo GD90GA112 com flange e eixo de saída maciço aumenta 39mm na medida (AG2 e CC).



EIXO MACIÇO DE ENTRADA					
REDUTOR	ØD <sup>H7</sup>	CHAVETA		RASGO	
		b	h	t1	t2
GD20	19	6	6	21.5	21.8
GD30	19	6	6	21.5	21.8
GD40	24	8	7	27	27.3
GD50	28	8	7	31	31.3
GD60	28	8	7	31	31.3
GD70	42	12	8	45	45.3
GD90	48	14	9	51.5	51.8
GD100	55	16	10	59	59.3

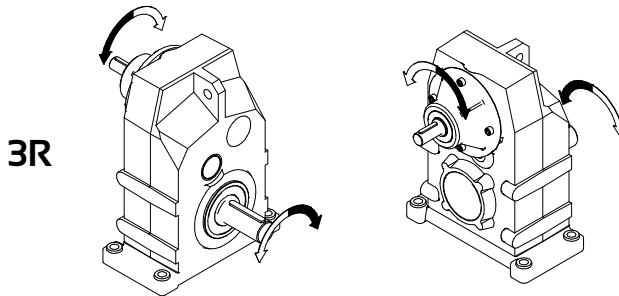
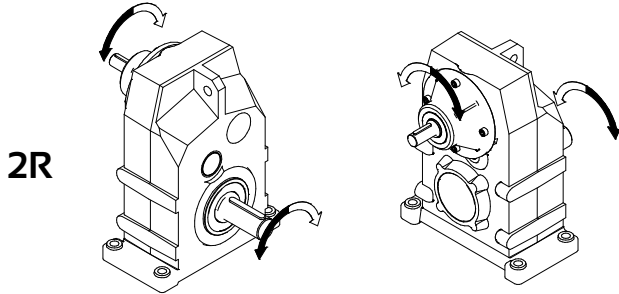
EIXO VAZADO DE SAÍDA					
REDUTOR	ØD <sup>H7</sup>	CHAVETA		RASGO	
		b	h	t1	t2
GD20	25	8	7	28	28.3
GD30	30	8	7	33	33.3
GD40	40	12	8	43	43.3
GD50	50	14	9	53.5	53.8
GD60	60	18	11	64.1	64.4
GD70	70	20	12	74.6	74.9
GD90	90	25	14	95.1	95.4
GD100	110	28	16	116.1	116.4

EIXO MACIÇO DE SAÍDA					
REDUTOR	ØD <sup>H7</sup>	CHAVETA		RASGO	
		b	h	t1	t2
GD20	25	8	7	28	28.3
GD30	30	8	7	33	33.3
GD40	40	12	8	43	43.3
GD50	50	14	9	53.5	53.8
GD60	60	18	11	64.1	64.4
GD70	70	20	12	74.6	74.9
GD90	90	25	14	95.1	95.4
GD100	100	28	16	116.1	116.4

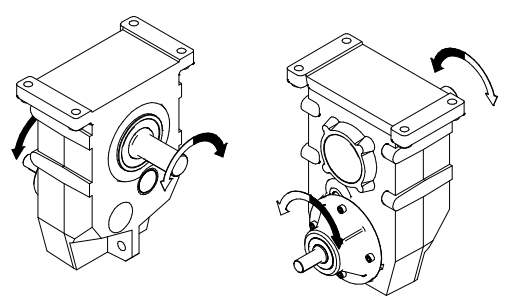
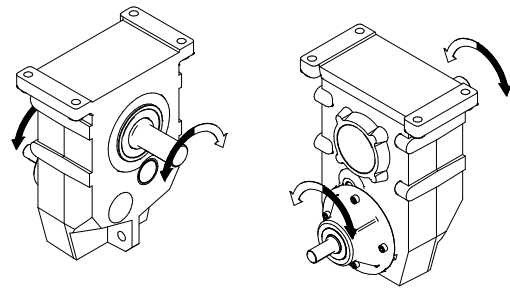
# SENTIDO DE GIRO

Abaixo as figuras representam o sentido de giro do redutor conforme a redução e forma construtiva selecionada pelo cliente.

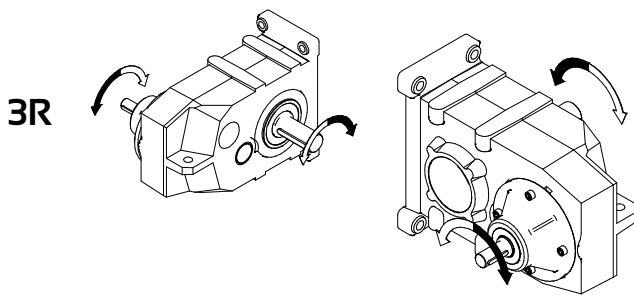
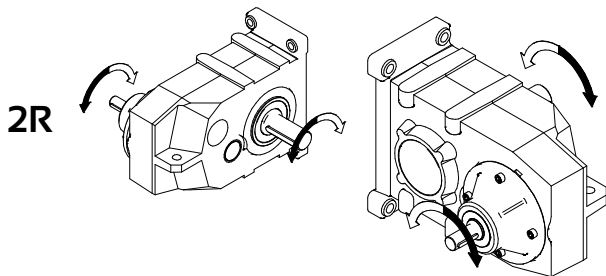
## Horizontal Superior



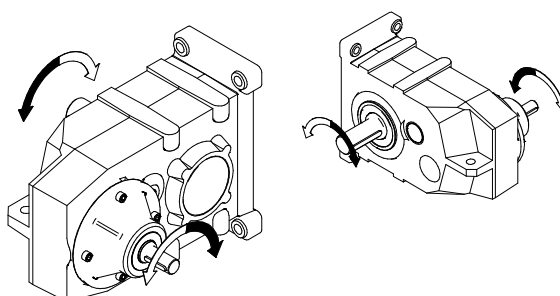
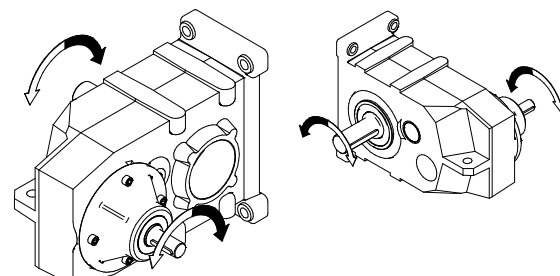
## Horizontal Inferior



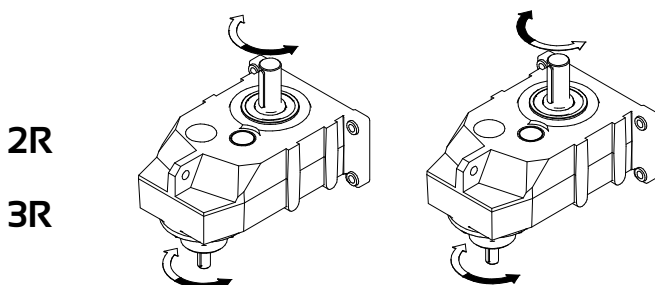
## Horizontal Direita



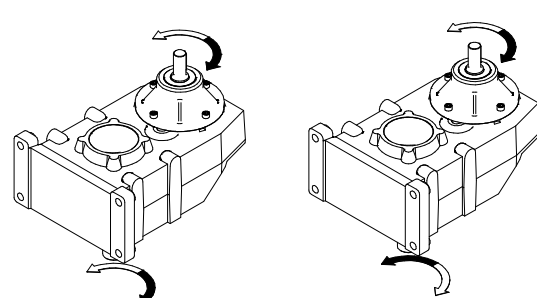
## Horizontal Esquerda



## Vertical Inferior



## Vertical Superior



# FORÇAS RADIAIS DE SAÍDA (Fra)

MOD.	RED	SAÍDA	
		RPM SAÍDA	FRα (N)
GD 20/2R	9,09	187,20	2200
	13,62	125,00	2600
	14,52	117,20	2700
	17,80	95,50	3000
	19,15	88,77	3100
	22,39	75,93	3500
	26,63	63,84	3700
	29,28	58,06	3900
	36,17	47,00	4200
GD 20/3R	42,83	39,69	4300
	50,59	33,60	4300
	64,21	26,48	4300
	68,43	24,84	5000
	83,90	20,26	5000
	90,26	18,83	5000
	105,55	16,11	5000
	125,53	13,54	5000
	138,02	12,32	5000
	170,50	9,97	5000

MOD.	RED	SAÍDA	
		RPM SAÍDA	FRα (N)
GD 30/2R	5,69	298,77	3000
	6,35	267,72	3000
	7,55	225,17	3000
	8,79	193,40	3500
	9,81	173,29	3600
	11,67	145,70	4000
	13,18	128,98	4500
	14,05	121,00	4500
	17,22	98,72	5000
	18,53	91,74	5000
	21,67	78,45	6000
	25,77	66,00	6300
	28,33	60,01	6300
	35,00	45,57	6300
	46,67	36,50	6500
	52,73	32,24	6500
	56,19	30,25	7000
GD 30/3R	68,89	24,68	7000
	74,12	22,94	7000
	86,67	19,61	7000
	94,29	18,03	7000
	103,08	16,49	7000
	113,33	15,00	7000
	140,00	12,14	7000
	180,00	9,44	7000
	220,45	7,71	7000
	268,67	6,33	7000
GD 30/3R GA56	310,01	5,48	7000
	364,43	4,66	7000
	397,50	4,28	7000
	436,07	3,90	7000
	482,23	3,53	7000
	600,11	2,83	7000
	735,53	2,31	7000
GD30/3R GC15/2R	791,16	2,15	7000
	925,45	1,84	7000
	1100,20	1,55	7000
	1209,77	1,41	7000
	1494,65	1,14	7000
	1643,56	1,03	7000
GD30/3R GC15/3R	1921,70	0,88	7000
	2222,88	0,76	7000
	2725,78	0,62	7000
	2932,56	0,58	7000
	3165,18	0,54	7000
	3428,71	0,50	7000
	4078,27	0,42	7000
	4768,85	0,36	7000
	5539,21	0,31	7000
	6477,02	0,26	7000

MOD.	RED	SAÍDA	
		RPM SAÍDA	FRα (N)
GD 40/2R	5,96	285,23	3500
	6,72	252,98	3500
	7,55	225,17	3500
	8,79	193,40	4000
	10,38	163,78	4000
	11,67	145,67	4500
	13,18	128,98	5000
	14,05	121,00	5500
	17,22	98,72	7000
	21,67	78,45	7000
	25,77	65,97	8000
	28,33	60,01	8000
	31,36	54,21	8000
	35,00	48,57	8000
	46,67	36,43	10300
	52,73	32,24	10300
	GD 40/3R	56,19	30,25
68,89		24,68	10300
86,67		19,61	10500
103,08		16,49	10500
113,33		15,00	10500
125,45		13,56	10500
140,00		12,14	11000
178,00		9,55	11000
181,87		9,35	11000
236,98		7,17	11000
255,58		6,65	11000
298,29		5,70	11000
354,78		4,79	11000
GD 40/3R GA 71	390,61	4,35	11000
	482,23	3,53	11000
	563,16	3,02	11000
	690,24	2,46	11000
	742,44	2,29	11000
	868,46	1,96	11000
GD 40/3R GC15/2R	1032,45	1,65	11000
	1135,28	1,50	11000
	1402,62	1,21	11000
	1542,35	1,10	11000
	1803,37	0,94	11000
	2086,00	0,81	11000
GD 40/3R GC 15 3R	2557,93	0,66	11000
	2970,28	0,57	11000
	3473,33	0,49	11000
	4207,85	0,40	11000
	4920,24	0,35	11000
	6078,19	0,28	11000

MOD.	RED	SAÍDA	
		RPM SAÍDA	FRα (N)
GD 50/2R	6,46	263,16	7000
	7,84	216,84	7000
	8,79	193,40	7000
	9,61	176,90	7000
	11,77	144,44	7500
	13,22	128,59	7500
	16,18	105,07	8000
	19,55	86,96	8000
	21,93	77,00	8000
	24,94	68,16	9000
	28,12	60,46	9000
	31,25	54,40	10000
	35,00	48,57	10000
	39,60	42,93	11000
	40,96	41,50	11000
	46,93	36,22	12500
	GD 50/3R	53,85	31,57
61,98		27,43	12500
69,69		24,39	13000
84,60		20,09	14000
97,35		17,46	15000
109,80		15,48	16000
124,73		13,63	16000
143,00		11,89	16000
156,51		10,86	16000
177,15		9,60	16000
202,65		8,39	16000
234,95		7,24	16000
239,73		7,09	16000
301,76		5,63	16000
358,90		4,74	16000
395,14		4,30	16000
436,96		3,89	16000
GD 50/3R GA 90	487,83	3,48	16000
	555,19	3,06	16000
	672,59	2,53	16000
	833,06	2,04	16000
	919,76	1,85	16000
	1073,23	1,58	16000
GD 50/3R GC 25/2R	1179,85	1,44	16000
	1305,86	1,30	16000
	1457,72	1,17	16000
	1683,35	1,01	16000
	1985,99	0,86	16000
	2368,86	0,72	16000
GD50/3R GC 25/3R	2870,21	0,59	16000
	3236,39	0,53	16000
	3924,05	0,43	16000
	5034,44	0,34	16000
	6218,60	0,27	16000
	7187,90	0,24	16000
	7995,65	0,21	16000

# FORÇAS RADIAIS DE SAÍDA (Fra)

MOD.	RED	SAÍDA	
		RPM SAÍDA	FRa (N)
GD 60/2R	6.53	260.34	5000
	7.62	223.10	5000
	8.96	189.73	5000
	10.02	169.66	5000
	11.95	142.26	5500
	13.74	123.73	6000
	16.39	103.72	7000
	18.59	91.45	8000
	22.15	76.75	9500
	26.17	64.96	10000
	29.30	58.02	12000
	33.38	50.93	12500
	37.38	45.48	12500
	45.14	37.66	13000
	53.57	31.73	15000
GD 60/3R	60.07	28.30	15000
	67.57	25.16	16000
	76.31	22.28	16000
	86.65	19.62	17000
	92.55	18.37	17000
	107.03	15.88	20000
	121.48	13.99	20000
	135.92	12.51	20000
	153.25	11.09	20000
	174.43	9.75	20500
	186.88	9.10	20500
	216.79	7.84	20500
	255.89	6.64	20500
	280.33	6.06	20500
	262.51	6.48	20500
GD 60/3R GA 90	330.42	5.14	20500
	393.00	4.33	20500
	432.68	3.93	20500
	478.46	3.55	20500
	534.17	3.18	20500
GD 60/3R GC35/2R	681.79	2.49	20500
	813.35	2.09	20500
	985.15	1.73	20500
	1110.69	1.53	20500
	1220.02	1.39	20500
	1346.77	1.26	20500
	1572.03	1.08	20500
GD 60/3R GC35/3R	1862.77	0.91	20500
	2172.73	0.78	20500
	2775.23	0.61	20500
	3311.06	0.51	20500
	4011.47	0.42	20500
	4523.27	0.38	20500
	5483.79	0.31	20500
	7036.00	0.24	20500
	8691.53	0.20	20500
	11174.82	0.15	20500

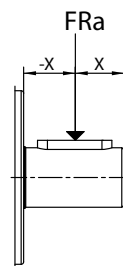
MOD.	RED	SAÍDA		
		RPM SAÍDA	FRa (N)	
GD 70/2R	6.94	244.96	10000	
	7.62	223.10	10000	
	8.90	191.01	10000	
	10.64	159.77	10000	
	11.67	145.67	15000	
	13.50	125.93	15000	
	15.77	107.80	16000	
	18.65	91.15	19000	
	21.06	80.72	20000	
	24.00	70.83	20000	
	27.54	61.73	20000	
	31.20	54.49	26000	
	35.78	47.51	28000	
	GD 70/3R	44.18	38.48	29000
		51.84	32.79	29000
63.87		26.62	29500	
66.71		25.48	29500	
79.92		21.27	29500	
92.40		18.40	30000	
108.00		15.74	30000	
120.76		14.08	30500	
136.08		12.49	30500	
154.80		10.98	30500	
178.20		9.54	31000	
192.24		8.84	31000	
226.80		7.50	31000	
234.78		7.24	31000	
GD 70/3R GA 112		248.79	6.83	31000
	263.47	6.45	31000	
	318.83	5.33	31000	
	366.85	4.63	31000	
	395.53	4.30	31000	
GD 70/3R GC 35/2R	466.90	3.64	31000	
	486.69	3.49	31000	
	562.06	3.02	31000	
	724.92	2.35	31000	
	864.8	1.97	31000	
	1047.47	1.62	31000	
	1180.96	1.44	31000	
	1297.20	1.31	31000	
	1431.97	1.19	31000	
	1671.48	1.02	31000	
GD 70/3R GC 35/3R	1837.54	0.93	31000	
	1980.61	0.86	31000	
	2310.18	0.74	31000	
	2950.79	0.58	31000	
	3520.51	0.48	31000	
	4265.24	0.40	31000	
	4809.41	0.35	31000	
	5280.77	0.32	31000	
	6804.07	0.25	31000	
	8281.38	0.21	31000	
9241.35	0.18	31000		
10681.62	0.16	31000		
11881.74	0.14	31000		

MOD.	RED	SAÍDA		
		RPM SAÍDA	FRa (N)	
GD 90/2R	6.39	266.04	20000	
	7.17	237.10	20000	
	8.06	210.92	25000	
	9.08	187.22	25000	
	10.27	165.53	26715	
	12.19	139.43	27970	
	15.37	110.62	29800	
	18.86	90.14	31445	
	22.35	76.05	32900	
	25.29	67.22	34030	
	27.01	62.94	34595	
	33.53	50.70	36605	
	37.84	44.93	37850	
	GD 90/3R	39.76	42.75	38315
		46.44	36.60	39890
54.94		30.94	41820	
62.03		27.41	43395	
70.69		24.05	44785	
75.17		22.62	45300	
79.17		21.47	46415	
92.47		18.39	48372	
109.39		15.54	50800	
123.50		13.77	51700	
140.74		12.08	53900	
161.50		10.53	56600	
182.96		9.29	58230	
209.79		8.10	60100	
GD 90/3R GA 112		218.35	7.79	60100
	231.37	7.35	60100	
	245.02	6.94	60100	
	296.50	5.73	60100	
	341.17	4.98	60100	
GD 90/3R GC 45/2R	367.84	4.62	60100	
	434.21	3.92	60100	
	473.91	3.59	60100	
	529.74	3.21	60100	
	629.60	2.70	60100	
	754.91	2.25	60100	
	918.66	1.85	60100	
	1057.61	1.61	60100	
	1231.92	1.38	60100	
	1375.21	1.24	60100	
GD 90/3R GC 45/3R	1603.48	1.06	60100	
	2087.31	0.81	60100	
	2297.59	0.74	60100	
	3050.64	0.56	60100	
	3659.77	0.46	60100	
	5125.54	0.33	60100	
	6665.12	0.26	60100	
	8440.12	0.20	60100	



# FORÇAS RADIAIS DE SAÍDA (F<sub>Ra</sub>)

MOD.	RED	SAÍDA	
		RPM SAÍDA	F <sub>Ra</sub> (N)
GD100 2R	4.90	346.9	30000
	5.73	296.7	32000
	6.76	251.5	32000
	7.67	221.6	37000
	8.97	189.5	36500
	10.58	160.7	34000
	12.60	134.9	36500
	14.49	117.3	36500
	16.84	101.0	39000
	18.74	90.7	42000
GD100 3R	22.31	76.2	42000
	25.06	67.8	46000
	28.33	60.0	51000
	32.15	52.9	51000
	33.56	50.7	51000
	37.94	44.8	55000
	43.06	39.5	58000
	51.38	33.1	62000
	59.13	28.8	65500
	68.66	24.8	70000
	76.34	22.3	74500
	91.72	18.5	80000
	102.61	16.6	85000
	117.44	14.5	88000
	136.23	12.5	90000
	153.98	11.0	90000
	164.42	10.3	90000
GD100 GA132	176.17	9.6	90000
	200.49	8.48	90000
	236.88	7.18	90000
	267.77	6.35	90000
	304.85	5.58	90000
	350.17	4.85	90000
	396.85	4.28	90000
455.22	3.73	90000	
GD100 GC45/2R	504.97	3.37	90000
	600.17	2.83	90000
	719.61	2.36	90000
	875.72	1.94	90000
	1008.17	1.69	90000
	1174.32	1.45	90000
	1310.91	1.30	90000
	1528.51	1.11	90000
	1660.37	1.02	90000
	1812.33	0.94	90000
	1989.72	0.85	90000
	2073.10	0.82	90000
	1572.03	1.08	20500
GD100 GC45/2R	2190.18	0.78	90000
	2447.39	0.69	90000
	2908.01	0.58	90000
	3488.67	0.49	90000
	4243.17	0.40	90000
	4885.91	0.35	90000
	5689.49	0.30	90000
	6353.52	0.27	90000
	7406.03	0.23	90000
	8045.82	0.21	90000
	8783.17	0.19	90000
9643.51	0.18	90000	



$$GD 20 > Fx = F_{Ra} \cdot 124 \\ (124 \pm X)$$

$$GD 30 > Fx = F_{Ra} \cdot 149 \\ (149 \pm X)$$

$$GD30 + GA56 > Fx = F_{Ra} \cdot 149 \\ (149 \pm X)$$

$$GD30 + GC15 > Fx = F_{Ra} \cdot 149 \\ (149 \pm X)$$

$$GD 40 > Fx = F_{Ra} \cdot 184 \\ (184 \pm X)$$

$$GD40 + GA71 > Fx = F_{Ra} \cdot 184 \\ (184 \pm X)$$

$$GD40 + GC15 > Fx = F_{Ra} \cdot 184 \\ (184 \pm X)$$

$$GD 50 > Fx = F_{Ra} \cdot 229 \\ (229 \pm X)$$

$$GD50 + GA90 > Fx = F_{Ra} \cdot 229 \\ (229 \pm X)$$

$$GD50 + GC25 > Fx = F_{Ra} \cdot 229 \\ (229 \pm X)$$

$$GD 60 > Fx = F_{Ra} \cdot 265 \\ (265 \pm X)$$

$$GD60 + GA90 > Fx = F_{Ra} \cdot 265 \\ (265 \pm X)$$

$$GD60 + GC35 > Fx = F_{Ra} \cdot 265 \\ (265 \pm X)$$

$$GD 70 > Fx = F_{Ra} \cdot 329 \\ (329 \pm X)$$

$$GD70 + GA112 > Fx = F_{Ra} \cdot 329 \\ (329 \pm X)$$

$$GD70 + GC35 > Fx = F_{Ra} \cdot 329 \\ (329 \pm X)$$

$$GD 90 > Fx = F_{Ra} \cdot 377 \\ (377 \pm X)$$

$$GD90 + GA112 > Fx = F_{Ra} \cdot 377 \\ (377 \pm X)$$

$$GD90 + GC45 > Fx = F_{Ra} \cdot 377 \\ (377 \pm X)$$

$$GD 100 > Fx = F_{Ra} \cdot 462 \\ (462 \pm X)$$

$$GD100 + GA132 > Fx = F_{Ra} \cdot 462 \\ (462 \pm X)$$

$$GD100 + GC45 > Fx = F_{Ra} \cdot 462 \\ (462 \pm X)$$

- O valor de X deve ser negativo se a carga aplicada for à esquerda do centro do eixo e positivo quando for à direita, como mostra o desenho.  
 - O valor de F<sub>Ra</sub> deve ser retirado da tabela de Forças Radiais de Saída.

