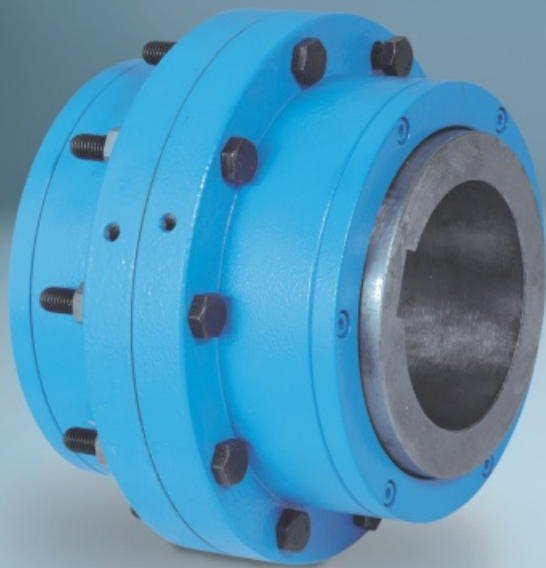


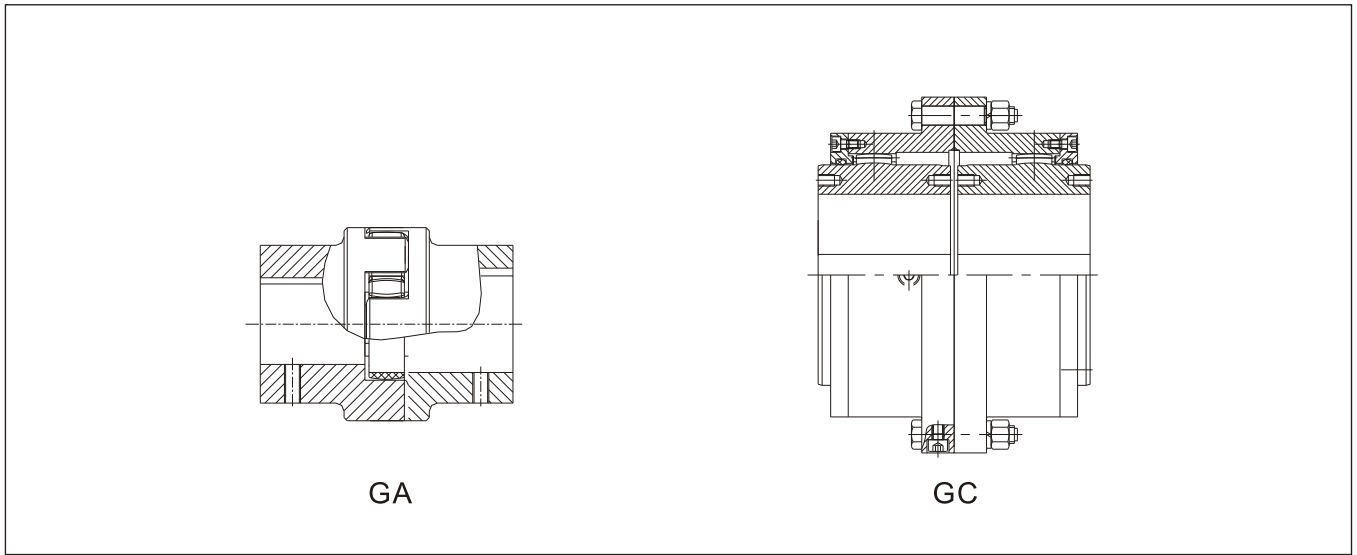
GA series torsionally flexible jaw-type couplings

GC series curved-tooth gear couplings

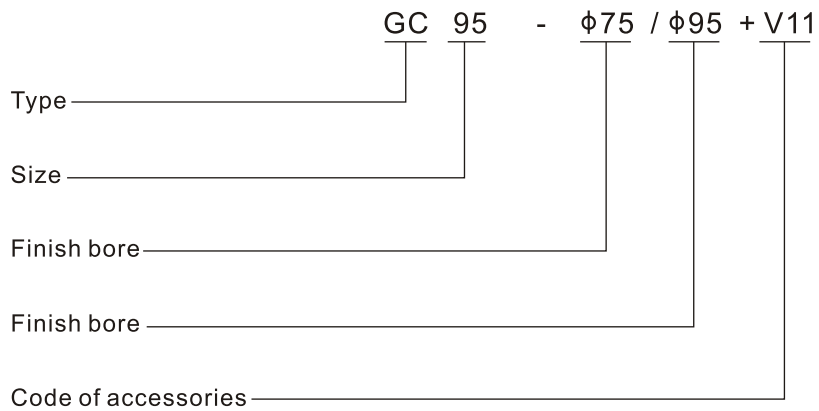
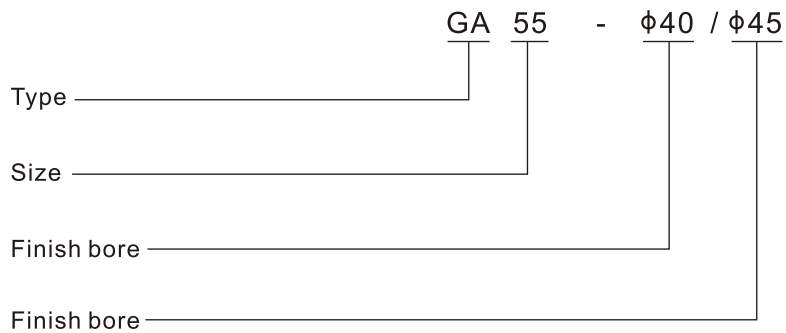




1 Sectional Drawings:



2 Type Designation:





3 GA Torsionally flexible jaw-type couplings:

3.1 Coupling selection and example:

Steps	Specification	Symbol	Calculate parameter				
			Load characteristic	Operating time(h/d)			
1	Driven machine factor	f _l	≤2	2-10	10-24		
			Uniform	1.00	1.25	1.50	
			Moderate	1.25	1.50	2.00	
			Heavy	1.50	1.75	2.25	
2	Starting frequency factor	f _z	Starting frequency(T/h)	0 - 1	1 - 30	30 - 60	60 -200
			f _z	1.0	1.2	1.3	1.5
3	Ambient temperature factor	f _t	Ambient temperature	-10℃~+30℃	+30℃~+40℃	+40℃~+60℃	+60℃~+80℃
			f _t	1	1.2	1.4	1.8
4	Permissible input speed	n ₁	n ₁ ≤ n _{1max} See the table of technical data				
5	Calculation of rated driving torque	T _n	T _n =9550 • P ₁ /n or other torque data of driving side				
6	Size confirmation	T _{2N}	T _{2N} ≥ T _n • f _l • f _z • f _t Select the type of the coupling and check the finish hole according to the principle which calculated torque must be less than the permissible normal torque.				
7	Special ambient conditions	/	For applications in extreme conditions such as high temperature, low temperature, dusty place, Chemical reaction (acid, alkali etc), open field (Sunshine, ice rain etc) Please consult Boneng for further information.				

Selection example

Known Criteria:

1. Input power P₁=30kW, input speed n₁=1470rpm
2. Load characteristic is moderate, working for 8h/day, starting frequency 10 times/hour ,ambient temperature <60℃
3. Finish bore Φ55/Φ60

Selection steps:

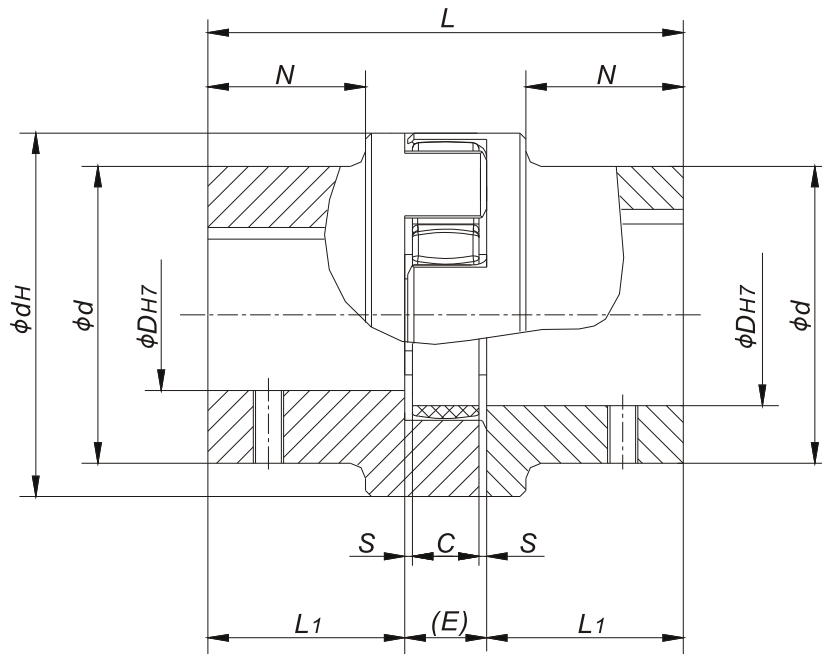
1. According to load characteristic and starting frequency, we can arrive at: f_l=1.5,f_z=1.2,f_t=1.4
2. Calculate rated torque of driving side:
T_n=9550 • P₁/n=9550 • 30/1470=195N • m
3. Check normal torque of coupling:
T_{2N} ≥ T_n • f_l • f_z • f_t=195 • 1.5 • 1.2 • 1.4=491.4 N • m,
check up the technical data table, T_{2N}=625 ≥ 491.4N • m
select GA65.
4. Check finish bore D: Ok (Acceptable)

Choose: GA65-Φ55/Φ60





3.2 Technical data:



Size	T _{2N} (N · m)	n _{1max} (rpm)	D Finish bore	d	dH	L	N	L ₁	E	c	s	Moment of inertia (kgm ²)	Weight (kg)
GA19	10	14000	9\11\14\19	32	41	66	20	25	16	12	2	0.00007	0.4
GA24	35	10600	11\14\16\19\24	40	56	78	24	30	18	14	2	0.00025	0.8
GA28	95	8500	14\19\24\25\28	48	67	90	28	35	20	15	2.5	0.00059	1.3
GA38	190	7100	20\25\28\30 32\35\38	66	80	114	37	45	24	18	3	0.0019	2.7
GA42	265	6000	25\28\30\32 35\38\40\42	75	95	126	40	50	26	20	3	0.0039	3.9
GA48	310	5600	25\30\32\35 38\40\42\45\48	85	105	140	45	56	28	21	3.5	0.0067	5.4
GA55	410	4750	30\32\35\38\40 42\45\48\50\55	98	120	160	52	65	30	22	4	0.0134	8.4
GA65	625	4250	35\38\40\42\45 48\50\55\60\65	115	135	185	47	75	35	26	4.5	0.03	13.8
GA75	1280	3550	40\42\45\48\50 55\60\65\70\75	135	160	210	53	85	40	30	5	0.066	21.6
GA90	2400	2800	50\55\60\65 70\75\80\85\90	160	200	245	62	100	45	34	5.5	0.174	37.5

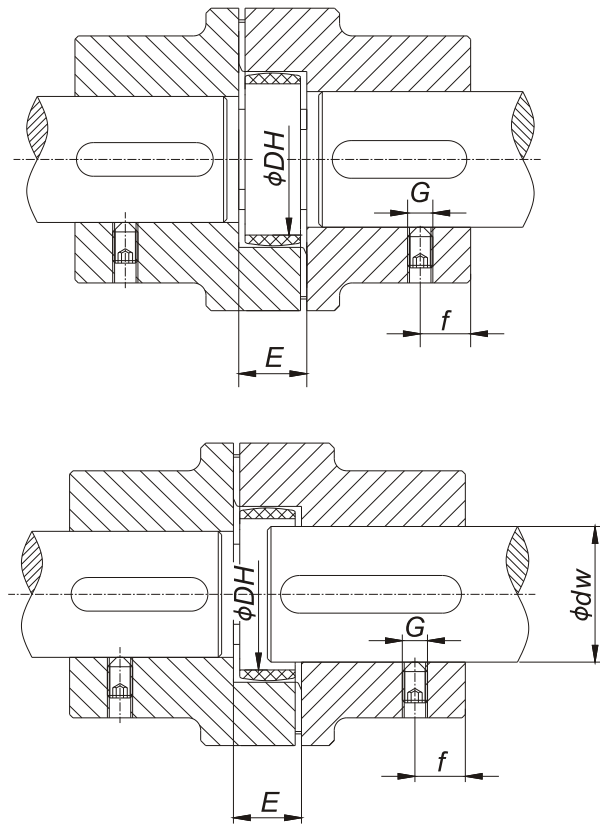
Note:

1. Coupling is made of nodular cast iron, The material of spider is pouring polyurethane with shore hardness HA92° .
2. Momentary overload torque of coupling TA ≤ 2 × T_{2N}.
3. Weight and mass moment of inertia each refer to the minimum pilot bore.



3.3 Installation and displacements:

1) Installation:



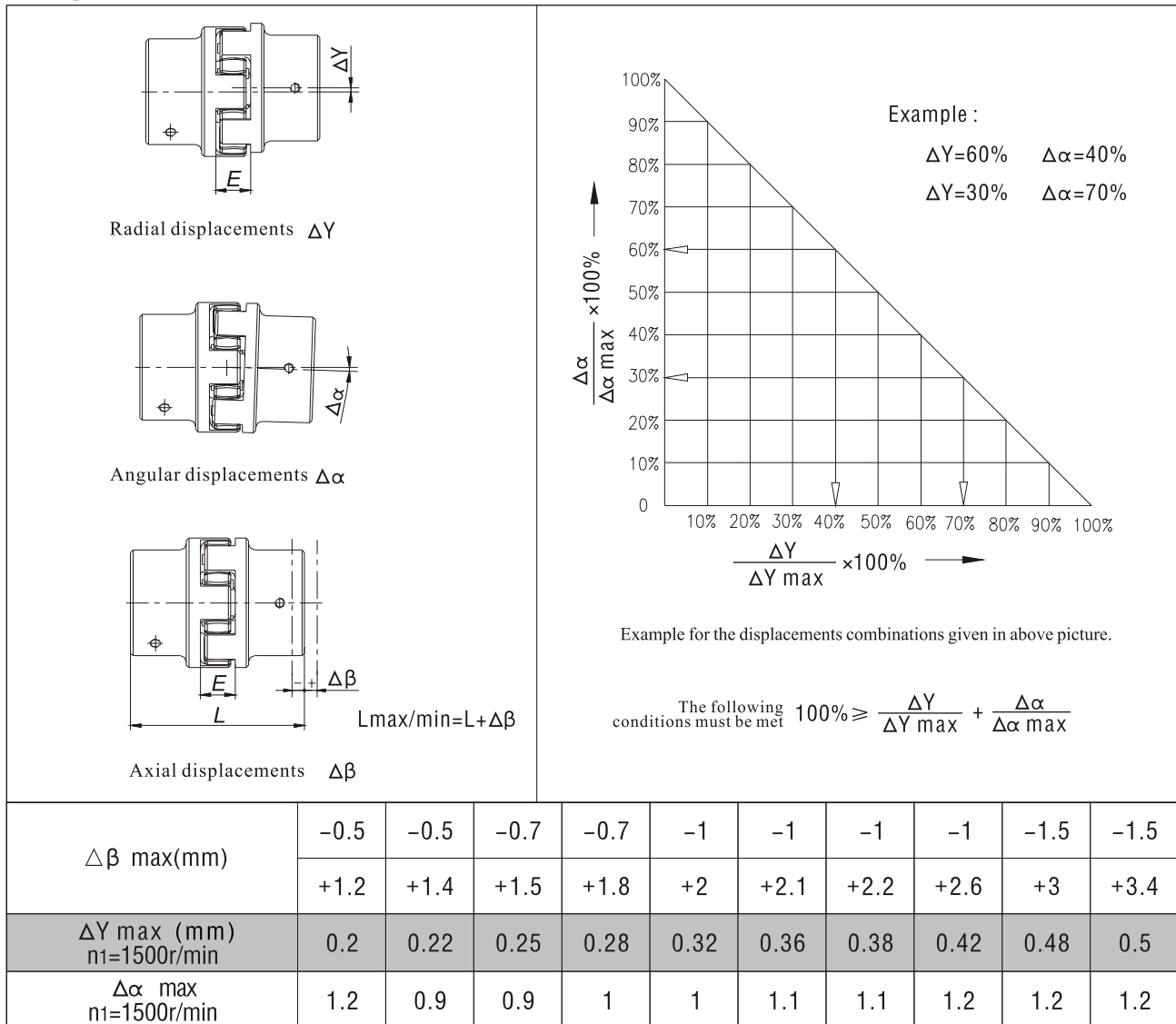
The permissible bore diameters
(Diameter of shaft ϕdw).

Size	GA19	GA24	GA28	GA38	GA42	GA48	GA55	GA65	GA75	GA90
Mounting Dimension										
E	16	18	20	24	26	28	30	35	40	45
DH	18	27	30	38.5	46	51	60	68	82	100
d Wmax	12	20	22	28	36	40	48	55	65	80
Set screw										
G	M5	M5	M8	M8	M8	M8	M10	M10	M10	M12
f	10	10	15	15	20	20	20	20	25	30
Tightening torque T (N · m)	2	2	4.8	10	10	10	17	17	17	40



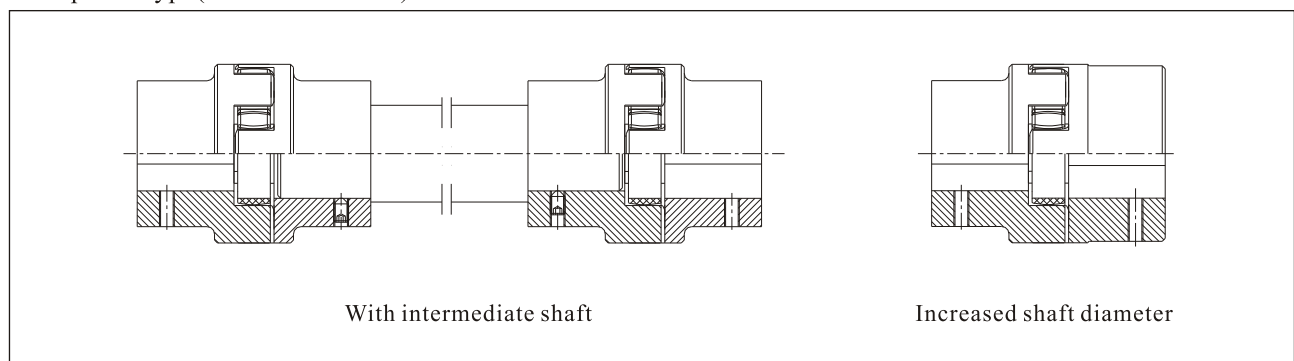


2) Displacements:



The above-mentioned figures of displacement of flexible couplings are standard values taking into account the load of the coupling up to the nominal torque T_2N and an operating speed $n=1500\text{rpm}$, along with an ambient temperature of $+30^\circ\text{C}$; The displacement figures may only be used one by one if they appear simultaneously. They must be limited in proportion. Care should be taken to maintain the distance dimension E accurately in order to allow for axial clearance of the coupling while in operation. In case of an axial shifting, the dimension " L " has to be considered as a minimum dimension in order to keep the spider free from pressure on its faces.

3.4 Special type(Please consult us):



G



4 GC Curved-tooth gear couplings:

4.1 Coupling selection and example:

Steps	Specification	Symbol	Calculate parameter				
1	Driven machine factor	f ₁	Load characteristic	Operating time(hours/day)			
				≤2	2-10	10-24	
			Uniform	1.25	1.50	1.75	
			Moderate	1.50	1.75	2.00	
			Heavy	2.00	2.25	2.50	
2	Starting frequency factor	f _z	Starting frequency (Times/H)	0 - 1	1 - 30	30 - 60	60 -200
			f _z	1.0	1.2	1.3	1.5
3	Permissible input speed	n ₁	n ₁ ≤ n _{1max} See the technical data				
4	Calculate rated driving torque	T _n	T _n =9550 · P ₁ /n or other torque of driving side				
5	Size confirmation	T _{2N}	T _{2N} ≥ T _n · f ₁ · f _z Select the type of the coupling and check the finish hole according to the principle which calculated torque must be less than the permissible rated torque.				
6	Normal ambient conditions	/	Ambient temperature -10~+40℃。				
7	Special ambient conditions	/	For applications in high or low temperature ,dusty, chemical reaction(acid, alkali), open field (sunshine,ice,rain etc), please consult us.				

Selection example

Known Criteria:

1. Input power P=90kW, input speed n=200rpm,
2. Load characteristic is moderate, work for 8h/day, start-up frequency f_z=10, horizontal mount,
3. Finish bore Φ75/Φ90

Selection steps:

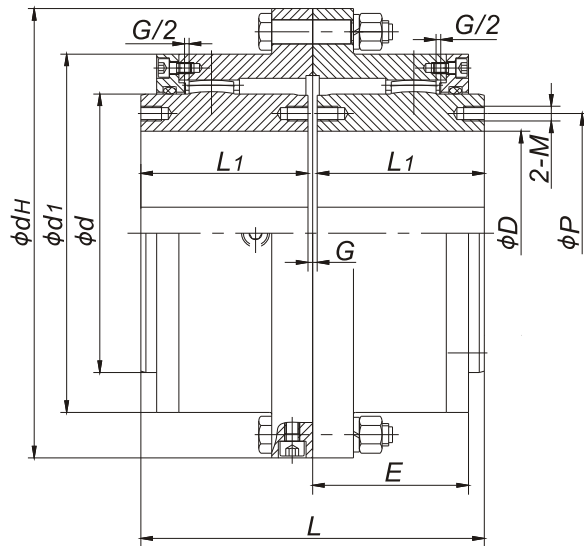
1. According to load characteristic and Starting frequency, we can arrive at driven machine factor f₁=1.75, f_z=1.2
2. Calculate nominal torque of driving side:
T_n=9550 · P₁/n=9550 · 90/200=4298N · m;
3. Check torque of coupling:
T_{2N} ≥ T_n · f₁ · f_z=4298 · 1.75 · 1.2=9026N · m,
check up the technical data table,
T_{2N}=10000 ≥ 9026 (N · m) select type GC95,
4. Check finish bore D: Acceptable

Choose: GA95-Φ75/Φ90





4.2 Technical data:

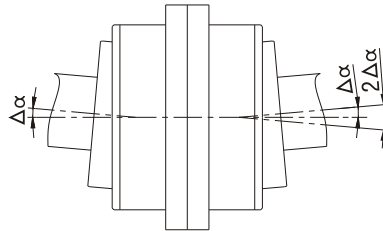
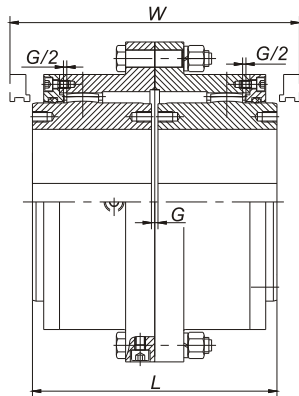


Size	T2N (kN·m)	n _{1max} (rpm)	DH7	L	dH	d1	d	L1	E	G	P	M	Moment of inertia (kgm ²)	Grease (L)	Weight (kg)
GC50	1.3	3000	35\38\40\42 45\48\50	89	119	94	65	43	42	3	/	/	0.006	0.05	4.6
GC60	2.8	3000	40\42\45\48 50\55\60	103	144	112	80	50	48	3	/	/	0.018	0.07	8.1
GC75	5	3000	55\60\65 70\75	127	175	141.5	103	62	58.5	3	/	/	0.05	0.13	14.5
GC95	10	3000	70\75\80 85\90\95	157	214	168	125	76	72	5	/	/	0.125	0.21	24.7
GC110	16	3000	90\95\100 110	185	242	193	148	90	84	5	/	/	0.23	0.36	35.3
GC150	32	2800	100\110\120 130\140\150	246	335	265	200	120	109	6	175	M12×15	1.13	0.8	96.6
GC190	62	2550	140\150\160 170\180\190	308	395	325	248	150	132	8	220	M16×20	2.88	1.51	165
GC240	115	2300	170\180\190 200\220\240	388	470	387	307	190	165	8	276	M16×20	6.41	2.43	271
GC280	244	1900	200\240\250 260\280	570	605	486	386	280	225	10	335	M20×24	24.2	6.44	609

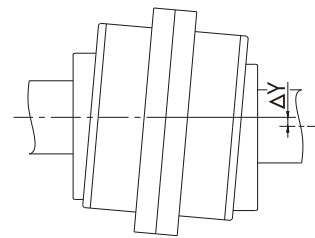
1. The weight, oil feeding and mass moment of inertia is refer to the minimum pilot bore.
2. The max permissible angular displacement of coupling selected must not exceed 1.5° .
3. The standard line is only for the horizontal assembly, for vertical mounting, pls select accessory V11, see 10/G page.
4. Out-factory without lubrication grease, when ambient temperature is between -10℃ ~+40℃, 000# lithium grease should be used for the coupling, accessory code is V00.



4.3 Installation and displacements:



$\Delta\alpha = 0.75^\circ$
 Max. angular compensation
 (Max. Angular displacement)



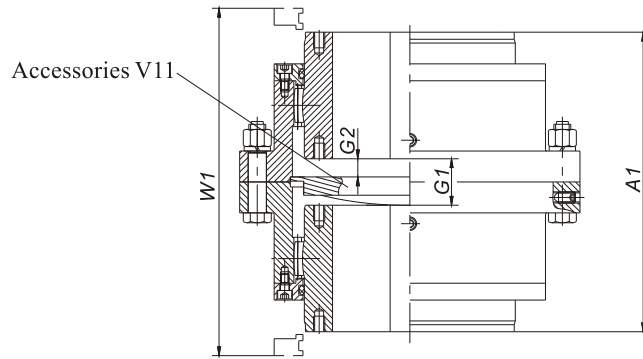
Permissible radial compensation of
 coupling in the case of no angular
 displacement between 2 axes
 (Max. Radial displacement)

Size	GC50	GC60	GC75	GC95	GC110	GC150	GC190	GC240	GC280
G	3	3	3	5	5	6	8	8	10
L	89	103	127	157	185	246	308	388	570
W	108	122	153	184	216	272	342	426	632
ΔY	0.32	0.4	0.5	0.6	0.7	1	1.2	1.5	2
$\Delta\alpha_{max}$	0.75°	0.75°	0.75°	0.75°	0.75°	0.75°	0.75°	0.75°	0.75°

Note: W dimension is for replacing seals.



4.4 Accessories for vertical mounting (Accessories V11) :



Size	GC50	GC60	GC75	GC95	GC110	GC150	GC190	GC240	GC280
A1	97	115	141	181	213	282	356	464	610
G1	11	15	17	29	34	30	56	84	50
G2	2	4	5	11	13	17.5	23	36	17
W1	116	134	167	208	244	296	390	502	672