

PLATES PACKS LAMELLAR COUPLINGS



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The GPL disc couplings are designed and manufactured to the highest standards for every applications to ensure reliable operation for the lifetime with disc pack in stainless steel. Certified and guaranteed by our highly controlled quality management. The torque is transmitted through alternate pins, on a common pitch circle diameter.

The features of GPL disc couplings ensure the following advantages:

- Low weight with high torque capacity;
- High rotation speed;
- Angular-axial-parallel misalignments;
- Work in both senses of rotation;
- Torsionally rigid and backlash free;
- High torsional stiffness;
- Operate at low and high temperatures;
- Operation in critical environmental conditions;
- Possible to replace disc pack elements without displacement of coupled equipment;
- No maintenance or lubrication required.

The GPL disc couplings in standard design are manufactured with stainless steel blades in AISI 301 bolts and bushes in high resistant steel for operation within temperature range from -30°C to +250°C.

MODEL

To satisfy the various torque requirements, speed, misalignments, axial thrusts etc., different versions of standard couplings and for special applications are available. The model GPL A with two hubs, double disc pack element and spacer with angular, axial and parallel misalignment. The model GPL B with two hubs, double disc pack element and intermediate flange with angular, axial and parallel misalignment. The model GPL C with two hubs, single disc pack element with angular and axial misalignment but not parallel, for this reason are generally not used individually but as a couple, connected to each other with a central spacer so as to realize on the plants a coupling with double articulation. The use of a single coupling is subject to the perfect alignment of the machines. The model GPL D with reverse hub, double disc pack element and spacer with angular, axial and parallel misalignment. The series HNS-6-AH-ALH and HNS-8-AH, with adapters, standard and oversized hubs AH-ALH allowing for bigger bores size, manufactured according to API 610-671. Their particular configuration guarantee a high grade of balancing with central group assembled (adapters-disc packs-spacer). SAPITFLEX also manufacture special design couplings on customer requirements, some of them are shown on page 38-41.



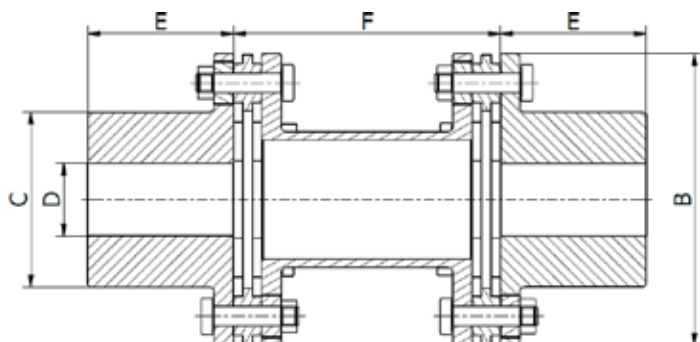
COUPLING SELECTION

The selection of the coupling size depends by several factors. First of all the choice have to be done for a coupling suitable to transmit the maximum torque necessary to suit the nominal power (installed power) of the driving machine assuming that it will be higher than the driven machine power (absorbed power). After having determined the power (HP or KW) to be transmitted as well as the relating operating speed (RPM) and the suitable service factor it is possible to select the coupling with the use of formulas here below. It is necessary to determine that the shaft diameters of the driving and driven machines are lower than the max allowed bore of the coupling (see table). Selection of coupling based on torque: The couplings included in this catalogue are capable to absorb a peak or occasional overload torques, equal to 1,5 times the nominal torque and a short circuit torque equal to 3 times the nominal torque.

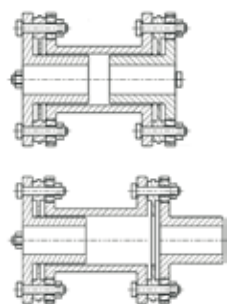
For all applications is provided a service factor. For couplings with finished bores and welded spacer is carried out upon request a dynamic balancing grade G6.3 or G2.5 ISO 1940; if not specified, the hubs with finished bores and keyways are balanced without the keyway (a half-key equivalent).



GPL-A



- All steel coupling with intermediate spacer
- Plates AISI 304
- Available with 4-6-8 bolts
- Maintenance free
- Backlash free
- Temperature range -40°C / + 150°C
- ATEX CE Ex - Possible on request.



D/AD
Both/single hub
reverse assembly

PRODUCT CODE KEY - EXAMPLE

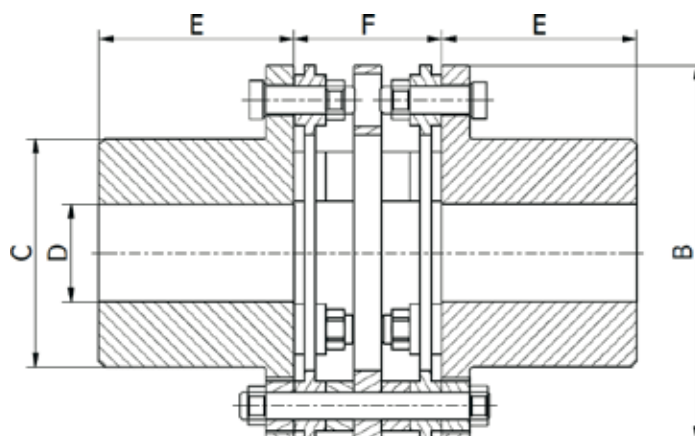
GPL	6	A	95	42	38	95	S
Model							
Number of bolts							
Type							
Size							
Bore D1							
Bore D2							
DBSE "F" dimension							
Special design according text specification							

LEGENDA

Δkw	Angular misalignment
Δka	Axial misalignment
	The permitted shaft misalignment are maximum values and must not colour in the same time
TKN	Is calculated for 24H continuous operation and maximum 20 start-up per hour
TK	Max is permitted only five times per hour

	TKN	TKMax	Speed	Δkw	Δka	\varnothing bore	B	C	E	F (DBSE)	
	Nm	Nm	Rpm-max	(°)	mm	Max mm	mm	mm	mm	mm	mm
GPL-A											
4A-70	160	320	4600	1,0	± 2.5	38	90	50	40	90	o.r.
4A-80	350	700	4400	1,0	± 3.0	42	105	60	45	100	o.r.
6A-95	650	1300	4200	0,7	± 2.6	55	120	77	60	110	o.r.
6A-110	900	1800	4000	0,7	± 2.9	65	135	86	70	120	o.r.
6A-120	1300	2600	3900	0,7	± 3.1	70	148	96	80	130	o.r.
6A-135	2500	5000	3800	0,7	± 3.4	80	170	110	90	150	o.r.
6A-158	2900	5800	3600	0,7	± 3.8	95	196	126	100	160	o.r.
6A-176	5000	10000	3500	0,7	± 4.1	100	220	135	110	170	o.r.
6A-186	6000	12000	3400	0,7	± 4.3	110	226	148	120	180	o.r.
6A-200	6500	13000	3200	0,7	± 4.5	120	240	156	125	190	o.r.
8A-210	9000	22000	3100	0,5	± 2.0	125	250	166	140	200	o.r.
8A-230	15000	30000	3000	0,5	± 2.2	140	277	186	160	210	o.r.
8A-245	21000	42000	3000	0,5	± 2.3	150	297	196	160	210	o.r.
8A-262	25000	50000	2900	0,5	± 2.5	160	316	205	180	220	o.r.
8A-283	33000	66000	2800	0,5	± 2.8	170	345	220	190	230	o.r.
8A-300	40000	80000	2500	0,5	± 3.0	185	365	235	210	240	o.r.
8A-320	50000	100000	2300	0,5	± 3.2	200	390	248	225	250	o.r.
8A-350	65000	130000	2100	0,5	± 3.5	220	420	270	250	260	o.r.

GPL-B



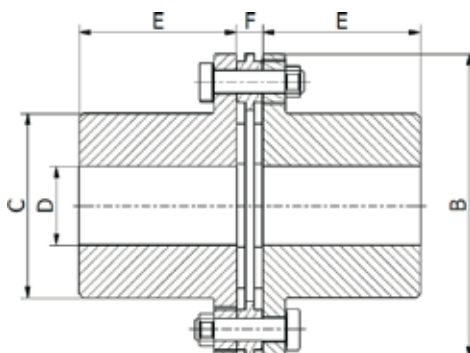
PRODUCT CODE KEY - EXAMPLE

Model	GPL	4	B	95	42	38	49	S
Number of bolts								
Type								
Size								
Bore D1								
Bore D2								
DBSE "F" fixed dimension for this design								
Special design according text specification								

- All steel coupling with intermediate flange
- Axial compact design
- Plates AISI 304
- Available with 4-6 bolts
- Maintenance free
- Backlash free
- Temperature range -40°C / + 150°C
- ATEX CE Ex - Possible on request

	TKN	TKMax	Speed	Δkw	Δka	\varnothing bore	B	C	E	F	
	Nm	Nm	Rpm-max	(°)	mm	Max mm	mm	mm	mm	mm	
GPL-B											
4B-70	160	320	4600	1,0	± 2.5	38	90	50	40	39,1	
4B-80	350	700	4400	1,0	± 3.0	42	105	60	45	47,2	
4B-95	500	1000	4200	1,0	± 3.2	55	120	77	60	49,2	
6B-110	900	1800	4000	0,7	± 2.9	65	135	86	70	53,2	
6B-120	1300	2600	3900	0,7	± 3.1	70	148	96	80	53,2	
6B-135	2500	5000	3800	0,7	± 3.4	80	170	110	90	67	
6B-158	2900	5800	3600	0,7	± 3.8	95	196	126	100	68	
6B-176	5000	10000	3500	0,7	± 4.1	100	220	135	110	76	
8A-350	65000	130000	2100	0,5	± 3.5	220	420	270	250	260	o.r.

GPL-C



PRODUCT CODE KEY - EXAMPLE

GPL	C	95	42	38	11	S	S	
Model								
Number of bolts								
Type								
Size								
Bore D1								
Bore D2								
DBSE "F" fixed dimension for this design								
Special design according text specification								

- All steel coupling with intermediate flange
- Axial compact design
- Plates AISI 304
- Available with 4-6 bolts
- Maintenance free
- Backlash free
- Temperature range -40°C / + 150°C
- ATEX CE Ex - Possible on request.

	TKN	TKMax	Speed	Δkw	Δka	\varnothing bore	B	C	E	F (DBSE)
	Nm	Nm	Rpm-max	(°)	mm	Max mm	mm	mm	mm	mm
GPL-C										
4C-70	160	320	4600	1,0	± 1.2	38	90	50	40	8,8
4C-80	350	700	4400	1,0	± 1.5	42	105	60	45	11,6
6C-95	650	1300	4200	0,7	± 1.3	55	120	72	60	11,6
6C-110	900	1800	4000	0,7	± 1.4	65	135	82	70	11,6
6C-120	1300	2600	3900	0,7	± 1.5	70	148	86	80	11,6
6C-135	2500	5000	3800	0,7	± 1.7	80	170	100	90	15
6C-158	2900	5800	3600	0,7	± 1.9	95	196	115	100	15
6C-176	5000	10000	3500	0,7	± 2.0	100	220	125	110	17
6C-186	6000	12000	3400	0,7	± 2.1	110	226	136	120	17
6C-200	6500	13000	3200	0,7	± 2.2	120	240	146	125	17
8C-210	9000	22000	3100	0,5	± 1.0	135	250	155	140	17
8C-230	15000	30000	3000	0,5	± 1.1	150	277	176	160	20
8C-245	21000	42000	3000	0,5	± 1.1	150	297	190	160	20
8C-262	25000	50000	2900	0,5	± 1.2	160	316	200	180	20
8C-283	33000	66000	2800	0,5	± 1.4	170	345	220	190	24
8C-300	40000	80000	2500	0,5	± 1.5	185	365	235	210	24
8C-320	50000	100000	2300	0,5	± 1.6	200	390	248	225	26
8C-350	65000	130000	2100	0,5	± 1.7	220	420	270	250	27

TECHNICAL APPENDIX

A+B+C

SCREWS TIGHTENING TORQUE

Screw dimension Class 10.9	Tigh Trq Nm
M6	8
M8	15
M10	30
M12	45
M16	100
M18	150
M20	180
M24	350
M27	500
M30	700
M36	1200
M42	1900

GPL-C



GPL-B



GPL-A



Maintenance free
Visual check the plates at:
Start-up
After 4 monts
Every 10,000 h operation