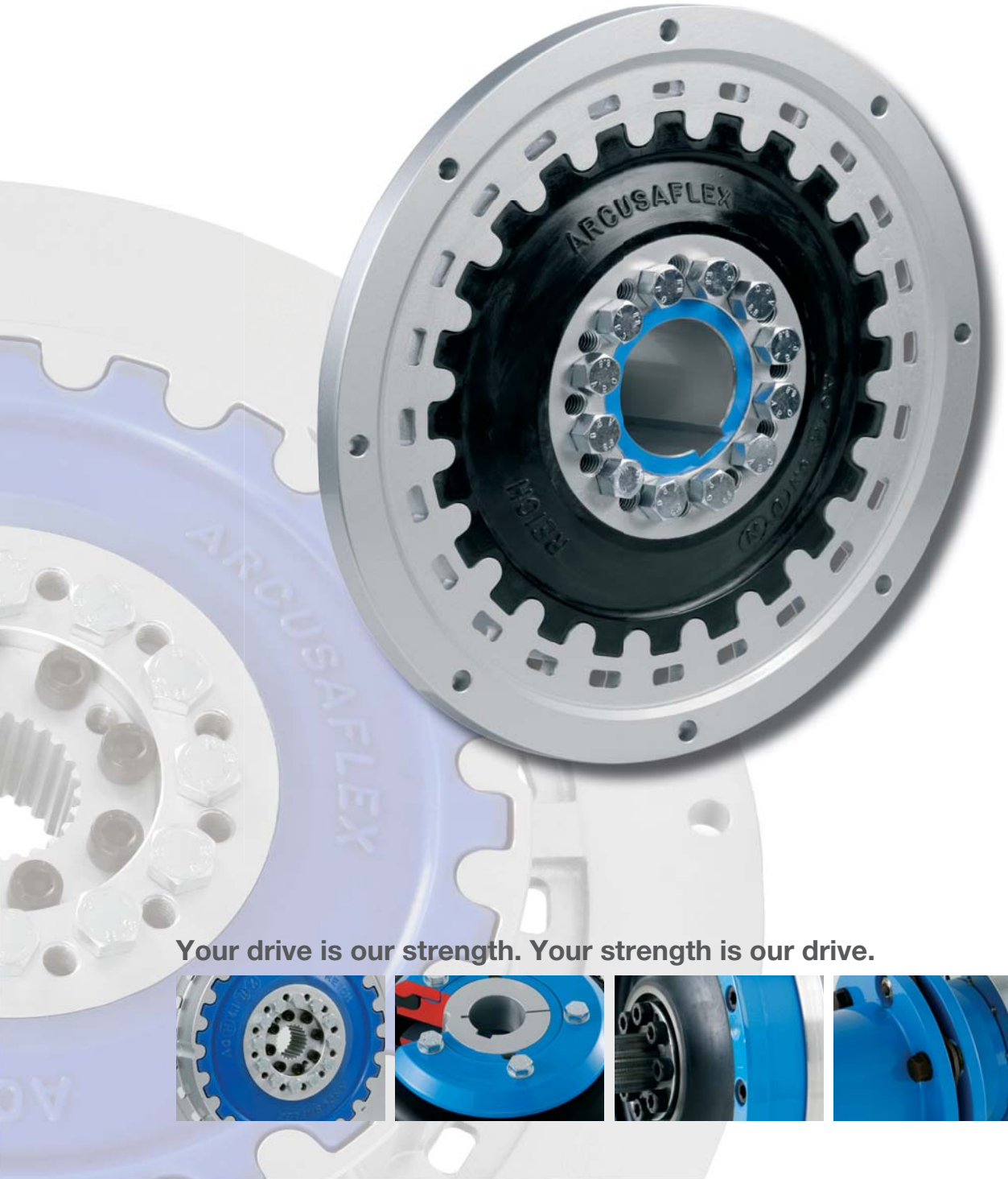
Reich Kupplungen

Dipl.-Ing. Herwarth Reich GmbH

D2C
Designed to Customer

ARCUSAFLEX

Highly torsionally flexible rubber disc coupling for internal combustion engine drives



Your drive is our strength. Your strength is our drive.

Contents

D2C – Designed to Customer

The principle of Designed to Customer describes the recipe for success of REICH-KUPPLUNGEN: Utilizing our product knowledge, our customers are supplied with couplings which are developed and tailor-made to their specific requirements. The designs are mainly based on modular components to provide effective and efficient customer solutions. The unique form of close cooperation with our partners includes consultation, design, calculation, manufacture and integration into existing environments. Adapting our manufacturing to customer-specific production and utilizing global logistics concepts provides better after sales service - worldwide. This customer-oriented concept applies to both standard products and production in small batch sizes.

The company policy of REICH-KUPPLUNGEN embraces, first and foremost, principles such as customer satisfaction, flexibility, quality, prompt delivery and adaptability to the requirements of our customers.

REICH-KUPPLUNGEN supplies not only a coupling, but a solution: Designed to Customer.

Edition September 2015

Proprietary notice pursuant to ISO 16016 to be observed:

The present ARCUSAFLEX edition renders parts of the previous ARCUSAFLEX catalogues obsolete.
All dimensions in millimeters.
We reserve the right to change dimensions and / or design details without prior notice.

General technical description

The ARCUSAFLEX® coupling is a highly flexible flywheel coupling with an axial plug-in facility. It provides a torsionally soft connection between an internal combustion engine and a driven machine.

The highly flexible torque transmission characteristic is achieved by a disc-shaped rubber element that is subjected to a torsional load and enables both, the absorption of high torsional vibrations and the compensation of major misalignments. For an optimum adaptation to the conditions of application three different kinds of vulcanisates are available: For application temperatures up to 80°C a natural/synthetic caoutchouc mixture as a standard version, up to 100°C a more heat resistant mixture and for higher application temperatures up to 130°C a silicone mixture.

The inside diameter of the rubber disc element is vulcanized directly to a taper hub or bolt-on sleeve. The toothed profile on the circumference of the element provides in service a virtually backlash-free, positive plug-in connection to the coupling flange.

The ARCUSAFLEX flywheel coupling series covers a torque range from 200 - 110000 Nm (corresponding to approx. 6500 kW at 1000 rpm). Element versions of different torsional stiffnesses are available for optimizing the torsional vibration range. The flange connection dimensions of ARCUSAFLEX couplings comply predominantly with the SAE J 620 and DIN 6281 standards. Other flange dimensions or overall lengths can be provided on request.

Shaft-to-shaft connections when required can be met by ARCUSAFLEX shaft couplings which consist of ARCUSAFLEX flywheel couplings of the standard design equipped with a second hub.

Type approvals by a number of leading classification societies are available. If required, couplings complete with fail safe devices can also be supplied.

ARCUSAFLEX® couplings comply to explosion protection according to ATEX 95. They are certified according to the directive 94/9/EC and may be used in hazardous locations (categories M2, 2 + 3).

The most important attributes and advantages of ARCUSAFLEX couplings

- Very high torsional flexibility with a linear torsional deflection characteristic
- High torsional vibration and shock load absorbing capability
- Backlash-free torque transmission
- Ease of assembly thanks to the plug-in type design with ample axial float
- Compensation of major misalignments
- Torque limitation protecting the drive against overload
- Ⓔx ATEX 95

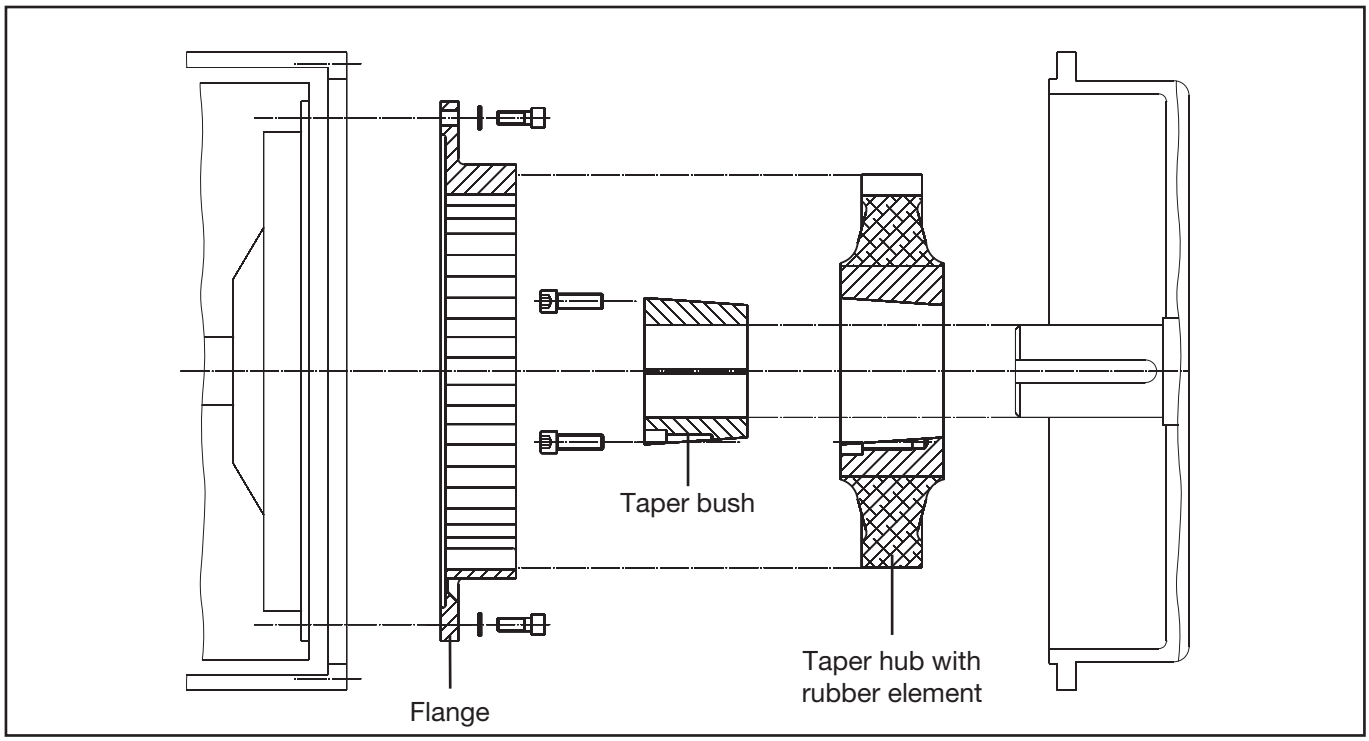
Types

ARCUSAFLEX type AC-T with taper bush

The ARCUSAFLEX® flywheel coupling type AC-T...F2 is equipped with a taper bush for shaft mounting. The rubber disc element is vulcanized directly to the taper hub. After completion of the assembly, a shrink-fit-like connection, free from backlash is established between the coupling hub with rubber disc element and the shaft.

Thanks to the use of commercially available taper bushes with a number of different bore dimensions, the need for finishing the bore and keyway of the coupling hub is omitted for the ARCUSAFLEX® coupling type AC-T. The torque, which can be transmitted, depends on the particular taper bush.

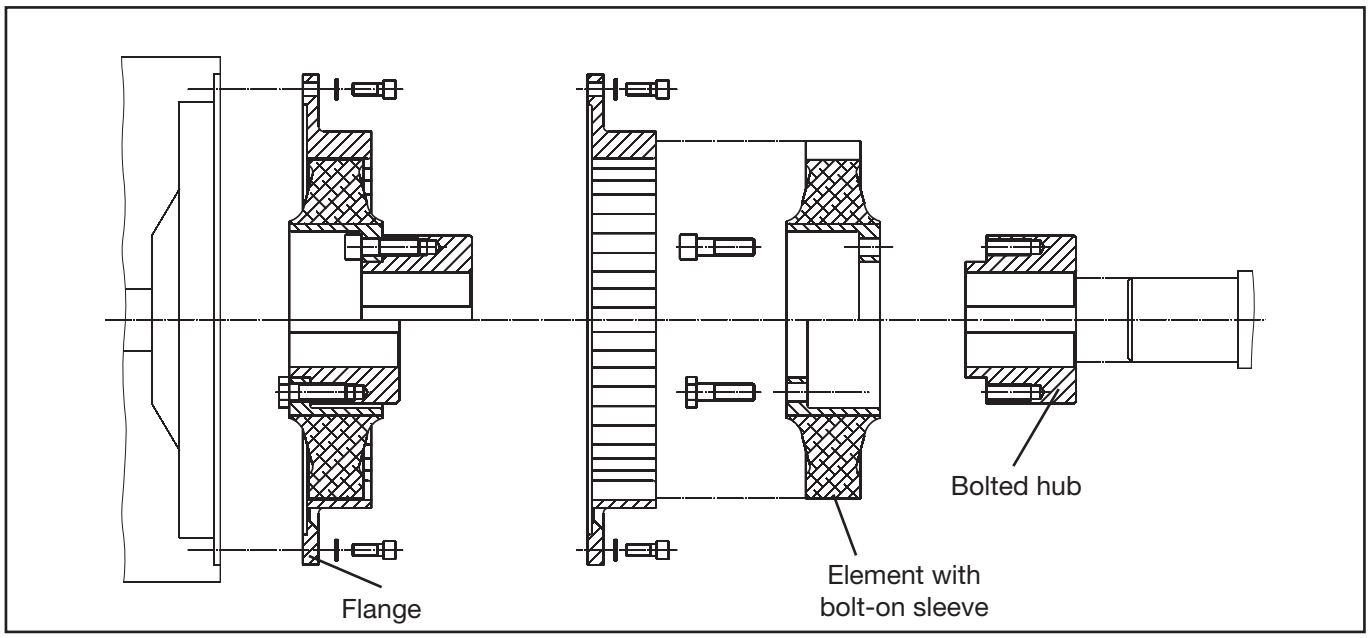
Advantage: Ease of assembly and disassembly with no need for special tools!



ARCUSAFLEX type AC...F2 with bolted hub

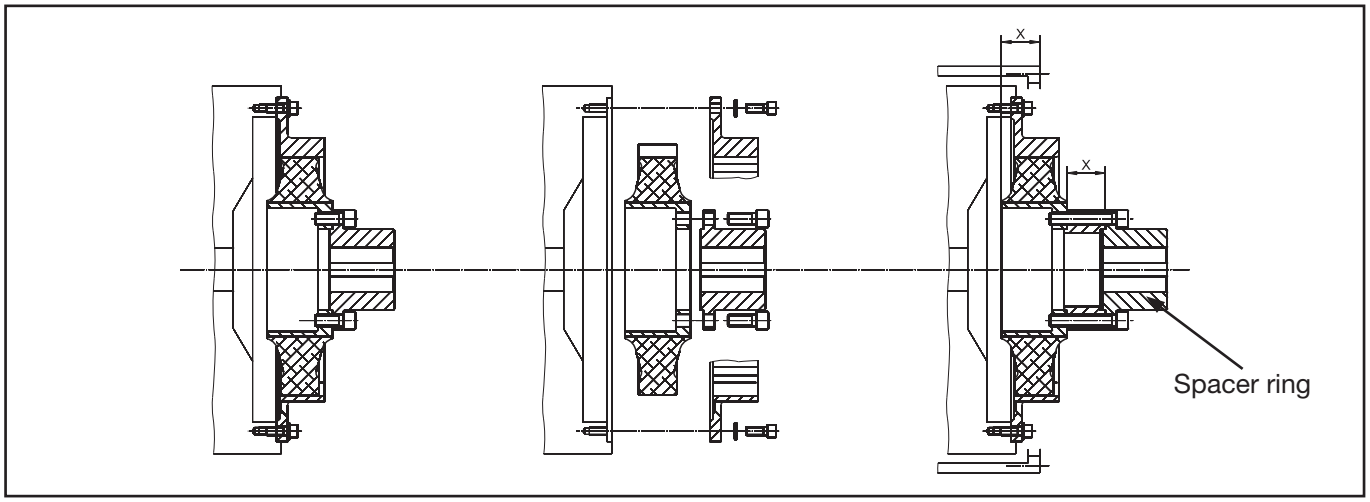
The ARCUSAFLEX® flywheel coupling type AC...F2 has the rubber disc element vulcanized to a bolt-on sleeve which in turn is bolted to a hub or similar component.

Advantage: Depending on the arrangement of the rubber disc element, two different mounting lengths can be achieved using one and the same coupling hub.

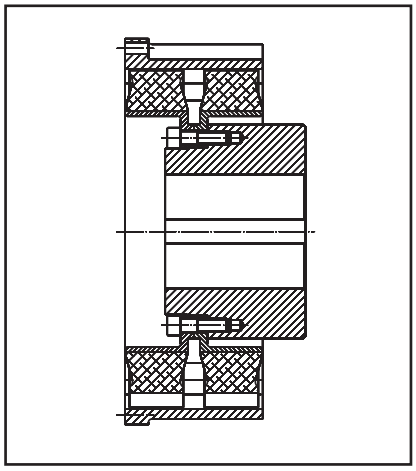


ARCUSAFLEX type AC...F2K for radial element change

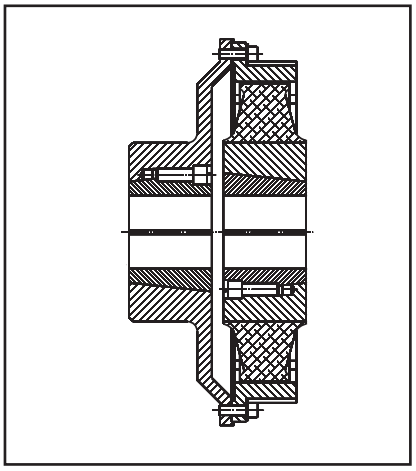
Type AC...F2K permits changing the detached element without having to move the coupled machines. Where the flywheel or flywheel housing protrudes excessively from the element, a spacer ring corresponding to oversize X is required for radial removal.



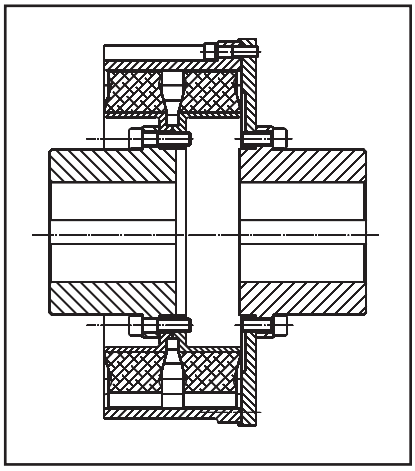
ARCUSAFLEX flywheel coupling type AC...D F2
with 2 elements operating in tandem



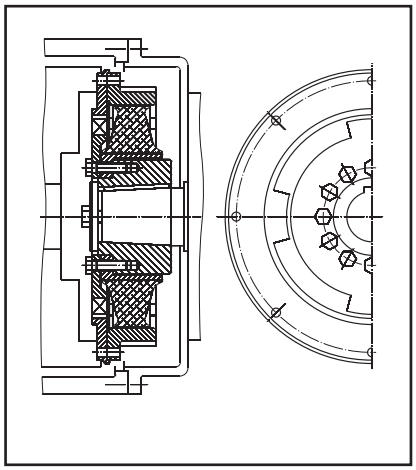
ARCUSAFLEX shaft coupling type AC-T...T



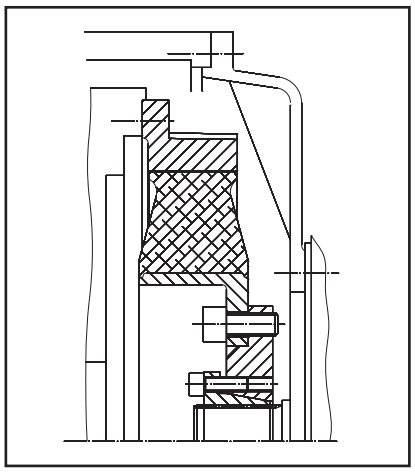
ARCUSAFLEX shaft coupling type AC...D TK
with 2 elements operating in tandem



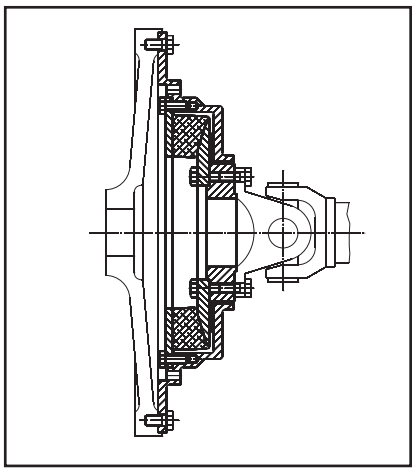
ARCUSAFLEX flywheel coupling type AC...DS
with fail safe device, to be mounted between an internal combustion engine and a marine gearbox.



ARCUSAFLEX flywheel coupling
with splined clamping hub, to be mounted between an internal combustion engine and a pump drive.



ARCUSAFLEX flywheel coupling type AC VSK...
with integral bearing, to be mounted to internal combustion engines as an U-joint coupling in conjunction with a cardan shaft. Extra folder is available..



Technical details

Standard version with 1 element - natural/synthetic caoutchouc

ARCUSAFLEX coupling size	Element version	Nominal torque T_{KN} Nm	Maximum torque TK_{max} Nm	Fatique torque*) $T_{KW\ (10Hz)}$ Nm	Dynamic torsional stiffness $C_{T\ dyn}$ kNm/rad	Flange size SAE J 620	Max. speed n_{max} rpm
AC 1,5	WN	210	450	105	1.6		
	NN	250	625	125	2.6	6.5 - 8	4200
	SN	300	750	150	4.8	10	3600
	UN	340	850	170	9.2		
AC 2,3	WN	330	750	165	1.6		
	NN	360	900	180	2.5	6.5 - 8	4200
	SN	400	1000	200	4.2	10	3600
	UN	450	1000	225	9.2		
AC 2,6 / 2,7[1)]	WN	500	1250	250	2.4		
	NN	600	1800	300	3.6	8	4200
	SN	700	2100	350	6.1	10	3600
	UN	800	2100	400	13.5	11.5	3500
AC 3	WN	800	2000	400	3.6		
	NN	900	2700	450	5.0	10	3600
	SN	1000	3000	500	7.5	11.5	3500
	UN	1150	3000	575	10.5		
AC 4 / 4.1	WN	1200	3000	600	8.0		
	NN	1350	3600	650	10.0	10	3600
	SN	1550	4200	750	13.5	11.5	3500
	UN	1800	4200	900	19.0	14	3000
AC 4.9	WN	1400	3500	700	10.0		
	NN	1800	4500	900	15.0	11.5	3200
	SN	2300	5500	1150	24.0	14	3000
	UN	2700	5500	1350	34.0		
AC 5 / 5.1	WN	1800	4500	900	8.5		
	NN	2000	5400	1000	13.0	11.5	3200
	SN	2500	7500	1250	22.0	14	3000
	UN	2900	7500	1450	31.0		
AC 6 / 6.1	WN	3100	7700	1500	16.0		
	NN	3450	10000	1700	30.0	14	3000
	SN	4200	12600	2100	45.0	18	2300
	UN	4800	12600	2400	63.0		
AC 6,5	WN	4000	10000	2000	25.0		
	NN	4500	13500	2250	40.0	14	3000
	SN	5500	16500	2750	72.0		
	UN	6200	16500	3100	100.0		
AC 7	WN	4600	10000	2300	35.0		
	NN	5200	15600	2600	56.0	14	2600
	SN	6300	18900	3100	100.0	18	2300
	UN	7400	18900	3700	140.0		
AC 7,5	WN	5600	12500	2800	35.0		
	NN	6400	19200	3200	56.0	14	2600
	SN	7600	22800	3800	100.0	18	2300
	UN	8800	18900	4400	145.0		
AC 8	WN	6200	14000	3100	38.0		
	NN	7000	21000	3500	75.0	18	2300
	SN	7800	23400	3900	110.0	21	2000
	UN	9200	23400	4600	160.0		
AC 9	WN	8000	18000	4200	55.0		
	NN	9000	27000	4800	100.0	18	2300
	SN	10000	30000	5500	190.0	21	2000
	UN	12000	30000	6000	300.0		
AC 10.2	WN	11000	28000	5500	75.0		
	NN	12500	37000	6250	120.0	18	2300
	SN	14000	42000	7000	210.0	21	2000
	UN	16000	42000	8000	320.0		
AC 11	WN	16000	40000	8000	150.0		
	NN	18000	54000	9000	250.0	21	2000
	SN	20000	60000	10000	450.0	24	1800
	UN	23000	60000	11500	650.0		
AC 11,7	WN	19200	48000	9600	180.0		
	NN	21600	65000	11000	300.0	21	2000
	SN	24000	72000	12000	540.0	24	1800
	UN	27000	72000	13000	785.0		
AC 11,9	WN	24000	60000	12000	250.0		
	NN	26000	78000	13000	525.0	21	2000
	SN	28000	84000	14000	1200.0	24	1800
	UN	31500	90000	15000	1750.0		
AC 12	WN	25000	75000	12500	250.0		
	NN	28000	84000	14000	400.0	similar to	1500
	SN	31500	94000	15000	700.0	DIN 6288	
	UN	36000	94000	18000	1000.0		
AC 13	WN	40000	120000	20000	375.0		
	NN	45000	135000	21250	600.0	on request	1500
	SN	50000	150000	22500	1050.0		
	UN	55000	150000	25000	1400.0		

Element versions: WN = 55° Shore A; NN = 65° Shore A; SN = 75° Shore A; UN = 85° Shore A

Due to the physical characteristics of the rubber materials the measurable rubber hardness is subject to a dispersion, which is defined according to DIN 53505 with ± 5° Shore A. Because of in-house manufacturing this dispersion of the shore hardness can be minimized.

*) Continuous fatigue torque under reversing stresses ± T_{KW} at = 10 Hz, for other frequencies f_x apply $T_{KW} \cdot \sqrt{\frac{10}{f_x}}$ 1) Torsional stiffness for AC 2,7 on request

Technical details

Standard version with 2 element - natural/synthetic caoutchouc

ARCUSAFLEX coupling size	Element version	Nominal torque T_{KN} Nm	Maximum torque TK_{max} Nm	Fatique torque*) $T_{KW\ (10Hz)}$ Nm	Dynamic torsional stiffness $C_{T\ dyn}$ kNm/rad	Flange size SAE J 620	Max. speed n_{max} rpm
AC 8D	WN	12400	28000	6200	76.0	18	2300
	NN	14000	42000	7000	150.0	21	2000
	SN	15600	46800	7800	220.0		
	UN	18400	46800	9200	320.0		
AC 9D	WN	16000	36000	8400	110.0	18	2000
	NN	18000	54000	9600	200.0	21	2000
	SN	20000	60000	11000	380.0	24	1800
	UN	24000	60000	12000	600.0		
AC 10.2D	WN	22000	56000	11000	150.0	21	2000
	NN	25000	74000	12500	240.0	24	1800
	SN	28000	84000	14000	420.0		
	UN	32000	84000	16000	640.0		
AC 11D	WN	32000	80000	16000	300.0	21	2000
	NN	36000	108000	18000	500.0	24	1800
	SN	40000	120000	20000	900.0		
	UN	46000	120000	23000	1300.0		
AC 11,7 D	WN	38400	96000	19200	360.0	21	2000
	NN	43200	130000	22000	600.0	24	1800
	SN	48000	144000	24000	1080.0		
	UN	54000	144000	26000	1570.0		
AC 12D	WN	50000	150000	25000	500.0	similar to DIN 6288	1300
	NN	56000	168000	28000	800.0		
	SN	63000	189000	30000	1400.0		
	UN	72000	189000	36000	2000.0		
AC 13D	WN	80000	240000	40000	750.0	on request	1300
	NN	90000	270000	42500	1200.0		
	SN	100000	300000	45000	2100.0		
	UN	110000	300000	50000	2800.0		

Element versions: WN = 55° Shore A; NN = 65° Shore A; SN = 75° Shore A; UN = 85° Shore A

Due to the physical characteristics of the rubber materials the measurable rubber hardness is subject to a dispersion, which is defined according to DIN 53505 with ± 5° Shore A. Because of in-house manufacturing this dispersion of the shore hardness can be minimized.

*) Continuous fatigue torque under reversing stresse ± T_{KW} at f = 10 Hz, for other frequencies f_x apply $T_{KW} \cdot \sqrt{\frac{10}{f_x}}$

Resonance factor V_R rand relative damping Ψ

Element version	V_R	Ψ
WN	7.85	0.80
NN	5.46	1.15
SN	5.03	1.25
UN	4.83	1.30

Technical note

The technical data applies only to the complete coupling or the corresponding coupling elements. It is the customer's/user's responsibility to ensure there are no inadmissible loads acting on all the components. Especially existing connections, like bolt connections, have to be checked regarding the transmittable torque, if necessary other measures, e.g. additional reinforcement by pins, may be required. It is the customer's/user's responsibility to make sure the dimensioning of the shaft and keyed or other connection, e.g. shrinking or clamping connection, is correct.

REICH-KUPPLUNGEN have an extensive programme of couplings and coupling systems to cover nearly every drive configuration. Furthermore customized solutions can be developed and be manufactured also in small series or as prototypes. Calculation programmes are available for coupling selection and sizing. - Please challenge us!

Technical details

Silicone version

ARCUSAFLEX coupling size	Element version	Nominal torque T_{KN} Nm	Maximum torque T_{Kmax1} Nm	Maximum torque T_{Kmax2} Nm	Fatique torque*) $T_{KW\ (10Hz)}$ Nm	Dynamic torsional stiffness $C_{T\ dyn}$ 0.10 T_{KN} kNm/rad	0.25 T_{KN} kNm/rad	0.50 T_{KN} kNm/rad	0.75 T_{KN} kNm/rad	1.00 T_{KN} kNm/rad
AC 2,3	WX	300	450	600	100	0.75	1.0	1.2	1.4	2.0
AC 2,6	WX	450	675	900	185	1.25	1.7	2.1	2.5	3.7
AC 3	WX	750	1125	1500	260	2.4	3.0	3.7	4.4	6.5
AC 4 / 4.1	WX	1150	1725	2300	430	5.2	6.5	8.3	9.7	14.4
AC 4,9	WX	1600	2400	3200	600	5.5	6.8	8.6	10.0	15.0
AC 5 / 5.1	WX	1800	2700	3600	700	5.6	7.0	9.0	10.5	15.5
AC 6 / 6.1	WX	3000	4500	6000	1150	13.0	16.0	20.0	24.0	36.0
AC 6,5	WX	3800	5700	7500	1450	25.0	30.0	34.0	45.0	59.0
AC 7	WX	4500	6750	9000	1800	36.0	44.0	48.0	64.0	84.0
AC 7,5	WX	5800	8700	11600	2200	48.0	60.0	66.0	88.0	115.0
AC 8	WX	6100	9150	12200	2200	38.0	48.0	56.0	68.0	96.0
AC 8D	WX	12200	18300	24400	4400	76.0	96.0	112.0	136.0	192.0
AC 9	WX	7500	11250	15000	2950	54.0	68.0	82.0	108.0	148.0
AC 9D	WX	15000	22500	30000	5900	108.0	136.0	164.0	216.0	296.0
AC 10.2	WX	10000	15000	20000	3700	85.0	104.0	128.0	176.0	240.0
AC 10.2D	WX	20000	30000	40000	7400	170.0	208.0	256.0	352.0	480.0
AC 11	WX	15000	22500	30000	5600	135.0	179.0	215.0	305.0	410.0
AC 11D	WX	30000	45000	60000	11200	270.0	340.0	430.0	610.0	820.0
AC 12	WX	22500	33750	45000	8400	380.0	445.0	555.0	655.0	870.0
AC 12D	WX	45000	67500	90000	16800	760.0	890.0	1100.0	1330.0	1740.0

Element version: WX = 60 ± 5° Shore A

*) Continuous fatigue torque under reversing stresses ± T_{KW} at f = 10 Hz, for other frequencies f_x apply $T_{KW} \cdot \sqrt{\frac{10}{f_x}}$

Additional information for selection of couplings with silicone elements:

1.6 - 2.0 $T_{AN} \leq T_{KN}$ T_{AN} = nominal torque of the drive

T_{Kmax1} is the highest permissible maximum torque of the application taking for example into account starting, stopping and running through the resonance speed.

T_{Kmax2} is the highest permissible peak torque, which can occur with a limited number of application related conditions, e.g. short-circuit, synchronization failure, emergency stop.

Resonance factor V_R and relative damping Ψ

Element version	V_R	Ψ
WX	5.46	1.15

Materials

Coupling flanges:	Coupling size AC 2,3 - AC 10.2 D and AC 11.9 high grade aluminium casting Coupling size AC 11 - AC13 D of cast iron with spheroidal graphite
Rubber disc element:	• Standard version natural/synthetic caoutchouc mixture for ambient temperatures from –40°C up to +80°C • More heat resistant natural/synthetic caoutchouc mixture for ambient temperatures from –25°C up to +100°C • Silicone mixture for ambient temperatures from –60°C up to +130°C
Type AC-T:	Taper hub and taper bush of cast iron with lamellar graphite
Type AC with bolted hub:	Bolt-on sleeve of cast iron with spheroidal graphite / bolted hub of steel (min. yield strength 360 MPa)

Selection of the proper coupling size

The coupling size to be used in conjunction with internal combustion engines is dimensioned and selected with a view to torsional vibration. For a preliminary selection use the engine torque TAN, a general safety factor of S = 1.3 - 1.5 should be applied for ARCUSAFLEX couplings with flexible rubber disc elements of natural/synthetic caoutchouc.

The following requirements should be satisfied for a proper selection of the coupling size:

1. The nominal torque capacity T_{KN} of the coupling shall be at least equal to the max. drive torque T_{AN} while taking the service factors into account

$$T_{KN} \geq T_{AN} \cdot S_t$$

Calculate the driving torque T_{AN}
Given a driving power P_{AN} and a coupling speed n_{AN}, the driving torque is calculated as follows:

$$T_{AN}\,[Nm] = 9550 \frac{P_{AN}\,[kW]}{n_{AN}\,[min^{-1}]}$$

The temperature factor S_t allows for a decreasing load carrying capability of the coupling at elevated ambient temperatures. In this connection $S_t=S_{t1}$ is valid for standard version and $S_t=S_{t2}$ for silicone version

°C	60	70	80	90	100	110	120	130
S_{t1}	1.25	1.4	1.6	on request		-	-	-
S_{t2}	1.5	1.5	1.5	1.7	1.9	2.1	2.3	2.5

2. The maximum torque capacity T_{Kmax} of the coupling shall be at least equal to the highest torque T_{max} encountered in operation while taking the temperature factor S_t into account

$$T_{Kmax} \geq T_{Kmax} \cdot S_t$$

3. The permissible continuous fatigue torque under reversing stresses T_{KW} of the coupling should be at least equal to the highest fatigue torque under reversing stresses T_W encountered throughout the operating speed range while taking the temperature and frequency into account.

$$T_{kW\ (10\ Hz)} \geq T_W \cdot S_t \cdot S_f$$

The frequency factor S_f allows for the frequency dependence of the permissible continuous vibratory torque under reversing stresses $T_{KW\ (10\ Hz)}$ when operating with a different frequency f_x

$$S_f = \sqrt{\frac{f_x}{10}}$$

The dimensioning of the coupling should be checked, with a view to the acting fatigue torque, for permissible coupling loads by means of a torsional vibration analysis which will be conducted by us on request. When using ARCUSAFLEX couplings in drives with great torque transmission variations, an additional safety factor should be applied for torque transmission to the driven machine. We are able to conduct this analysis according to the 2 or n-mass system when all required technical details are given.

The coupling can be equipped with an additional balancing mass on the primary or secondary side, if this is required due to the torsional vibration conditions or for control reasons.

Further information for the torsional vibration calculation and for use of the ARCUSAFLEX rubber disc coupling are available on request.

ARCUSAFLEX flywheel couplings

Type AC-T...F2 with taper bush

Flange connecting dimensions to SAE J 620 d and mounting dimensions to DIN 6281

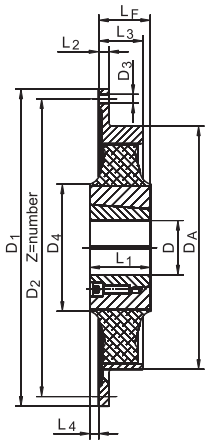


Fig. 1

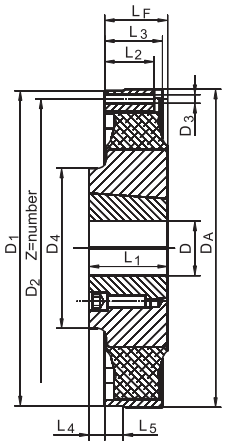
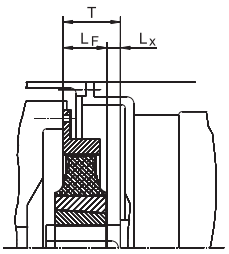


Fig. 2



Mounting instruction:

If engine and generator connecting dimensions comply with DIN 6281,the distance dimension L_X must be observed during assembly. The coupling dimension L_F must be within the tolerance.

ARCUSAFLEX Coupling size	Fig	Flange connections to SAE J 620 SAE size	D_1 mm	D_2 mm	D_3 mm	Z	Taper bushing No.	D_A mm	D_4 mm	L_1 mm	L_2 mm	L_3 mm	L_4 mm	L_5 mm	L_F mm	DIN 6281 T mm	DIN 6281 L_x mm	J_1 outside kgm²	J_2 inside kgm²	Total weight kg
AC-T 1,5*).F2	1	6.5	215.9	200.0	8.5	6	1610	177	-	25	8	37	-	-	38±2	-	-	0.005	0.004	2.3
	1	7.5	241.3	222.3	8.5	8	1610	177	-	25	8	37	-	-	38±2	-	-	0.007	0.004	2.5
	1	8	263.5	244.5	10.5	6	1610	177	-	25	8	37	-	-	38±2	81.0	43	0.011	0.004	2.7
	1	10	314.3	295.3	10.5	8	1610	177	-	25	8	37	-	-	38±2	73.0	35	0.021	0.004	3.2
AC-T 2,3.*) F2	-	6.5	215.9	200.0	8.5	6	2012	222	-	32	6	41	-	8	52±2	-	-	0.008	0.008	3.6
	2	7.5	241.3	222.3	8.5	8	2012	222	-	32	33	33	-	8	43±3	-	-	0.008	0.008	3.5
	1	8	263.5	244.5	10.5	6	2012	222	-	32	8	33	-	-	43±3	81.0	38	0.011	0.008	3.7
	1	10	314.3	295.3	10.5	8	2012	222	-	32	8	33	-	-	43±3	73.0	30	0.020	0.008	4.2
AC-T 2,6.*).F2	2	8	263.5	244.5	10.5	6	2517	263	150	45	33	38	3	10	42±4	81.0	41	0.011	0.019	5.9
	1	10	314.3	295.3	10.5	8	2517	263	150	45	10	38	3	-	42±4	73.0	33	0.017	0.019	6.2
	1	11.5	352.4	333.4	10.5	8	2517	263	150	45	10	38	3	-	42±4	58.6	16	0.024	0.019	6.5
AC-T 2,7.*).F2	1	8	263.5	244.5	10.5	6	2517	224	135	45	4	37	5	-	40±4	81.0	41	0.014	0.014	5.5
	1	10	314.3	295.3	10.5	8	2517	224	135	45	4	37	5	-	40±4	73.0	31	0.029	0.014	6.1
	1	11.5	352.4	333.4	10.5	8	2517	224	135	45	4	37	5	-	40±4	58.6	16	0.047	0.014	6.7
AC-T 3.*).F2	1	10	314.3	295.3	10.5	8	2517	290	150	64	16	52	6	-	58±7	73.0	14	0.026	0.026	8.5
	1	11.5	352.4	333.4	10.5	8	2517	290	150	64	16	52	6	-	58±7	58.6	-	0.036	0.026	8.8
AC-T 4.*).F2	2	10	314.3	295.3	10.5	8	3030	320	175	76	56	56	8	8	68±6	73.0	4	0.042	0.059	13.7
	1	11.5	352.4	333.4	11	8	3030	320	175	76	16	70	8	-	68+16/-6	106.6	39	0.053	0.059	14.1
	1	14	466.7	438.2	13.0	8	3030	320	175	76	16	70	8	-	68+16/-6	92.4	25	0.081	0.059	14.8
AC-T 4,9.*).F2	1	11.5	352.4	333.4	10.5	8	3535	320	180	89	16	77	-	-	92±7	106.6	14	0.080	0.097	16.8
	1	14	466.7	438.2	13.0	8	3535	320	180	89	16	77	-	-	92±7	92.4	-	0.125	0.097	17.9
AC-T 5.*).F2	2	11.5	352.4	333.4	10.5	8	3535	354	210	89	54	65	13	20	76±5	106.6	30	0.054	0.131	20.5
	1	14	466.7	438.2	13.0	8	3535	354	210	89	15	65	13	-	76±5	92.4	17	0.154	0.131	23.2
AC-T 6.*).F2	1	14	466.7	438.2	13.0	8	4040	420	240	102	18	80	10	-	92±7	92.4	-	0.171	0.334	36.0
	1	16	517.5	489.0	13.0	8	4040	420	240	102	18	80	10	-	92±7	82.7	-	0.320	0.334	37.5
	1	18	571.5	542.9	17.0	6	4040	420	240	102	18	80	10	-	92±7	82.7	-	0.470	0.334	40.6
AC-T 6,5.*).F2	1	14	466.7	438.2	13.0	8	4535	420	-	90	18	90	-	-	92±4	92.4	-	0.688	0.432	52.6
AC-T 7.*).F2	2	14	466.7	438.2	13.0	8	4545	465	235	115	85	85	28	27	87±10	92.4	5	0.312	0.761	62.8
	1	16	517.5	489.0	13.0	8	4545	465	235	115	27	85	28	-	87±10	82.7	-	0.411	0.761	64.2
	1	18	571.5	542.9	17.0	6	4545	465	235	115	18	85	28	-	87±10	82.7	-	0.519	0.761	67.5
AC-T 7,5.*).F2	2	14	466.7	438.2	13.0	8	4545	478	270	115	100	115	5	-	110±5	-	-	1.512	0.786	86.0
	1	18	571.5	542.9	17.0	12	4545	478	270	115	20	115	5	-	110±5	-	-	2.306	0.786	97.3
AC-T 8.*).F2	1	18	571.5	542.9	17.0	12	5040	514	-	102	18	84	-	-	102±7	-	-	0.478	1.058	61.4
	1	21	673.1	641.4	17.0	12	5040	514	-	102	18	84	-	-	102±7	-	-	0.948	1.058	66.2
AC-T 9.*).F2	1	18	571.5	542.9	17.0	12	5040	560	-	102	35	92	-	-	102±4	-	-	0.846	1.605	80.5
	1	21	673.1	641.4	17.0	12	5040	560	-	102	20	92	-	-	102±4	-	-	1.422	1.605	87.0

*) For the element versions, see “Technical details”

Available taper bushes

No.	Metric bores with keyway acc. to DIN 6885/1																		
1610	12	14	15	16	18	20	22	24	25	28	30	32	35	38	40	42	-	-	-
2012	14	16	17	19	20	22	24	25	28	30	32	35	38	40	42	45	48	-	-
2517	16	18	19	20	22	24	25	28	30	32	35	38	40	42	45	48	50	55	60
3030	25	28	30	32	35	38	40	42	45	48	50	55	60	65	70	75	-	-	-
3535	35	38	40	42	45	48	50	55	60	65	70	75	80	85	90	-	-	-	-
4040	40	42	45	48	50	55	60	65	70	75	80	85	90	95	100	-	-	-	-
4535	55	60	65	70	75	80	85	90	95	100	105	110	-	-	-	-	-	-	-
4545	55	60	65	70	75	80	85	90	95	100	105	110	-	-	-	-	-	-	-
5040	70	75	80	85	90	95	100	105	110	115	120	125	-	-	-	-	-	-	-

Taper bushes with imperial size bores can also be supplied.

Ordering example: Coupling designation **AC-T4. NN. F2. 14. 3030. 65**

- AC-T4. — ARCUSAFLEX coupling size
- NN. — Element version acc. to „Technical details”
- F2. — Size of flange connection to SAE J 620
- 14. — Nominal size of taper bush
- 3030. — Nominal size of taper bush
- 65 — Bore diameter

Type AC...F2 with bolted hub

Flange connecting dimensions to SAE J 620 d

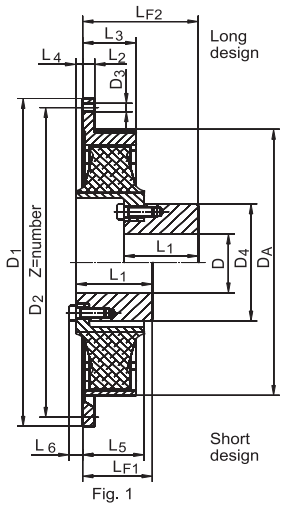


Fig. 1

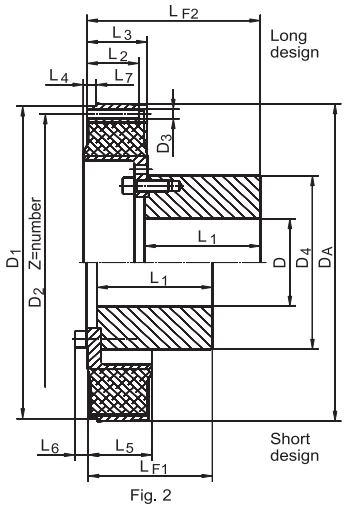


Fig. 2

ARCUSAFLEX Coupling size	Fig.	Flange connection to SAE J 620 SAE size	D_1 mm	D_2 mm	D_3 mm	Z	D_A mm	D mm min.	D mm max.	D_4 mm	L_1 mm	L_2 mm	L_3 mm	L_4 mm	L_5 mm	L_6 mm	L_7 mm	L_{F1} short mm	L_{F2} long mm	J_1 outside kgm^2	J_2 inside kgm^2	Total weight kg
AC 2,3.*).F2	-	6.5	215.9	200.0	8.5	6	222	unbored. precentered	60	98	54	6	41	-	52	-	8	-	103	0.008	0.010	5.8
	2	7.5	241.3	222.3	8.5	8	222		60	98	54	33	33	-	43	-	8	-	94	0.011	0.010	6.1
	1	8	263.5	244.5	10.5	6	222		60	98	54	8	33	-	43	-	-	-	94	0.011	0.010	6.4
	1	10	314.3	295.3	10.5	8	222		60	98	54	8	33	-	43	-	-	-	94	0.017	0.010	6.9
AC 2,6.*).F2	2	8	263.5	244.5	10.5	6	263		65	118	65	33	38	3	42	11	10	73	104	0.011	0.022	6.6
	1	10	314.3	295.3	10.5	8	263		65	118	65	10	38	3	42	11	-	73[1)]	104	0.017	0.022	6.9
	1	11.5	352.4	333.4	10.5	8	263		65	118	65	10	38	3	42	11	-	73	104	0.024	0.022	7.2
AC 2,7.*).F2	1	8	263.5	244.5	10.5	6	224		65	118	65	4	37	5	40	-	-	-	102	0.014	0.018	7.2
	1	10	314.5	295.3	10.5	8	224		65	118	65	4	37	5	40	-	-	-	102	0.029	0.018	7.8
	1	11.5	352.4	333.4	10.5	8	224		65	118	65	4	37	5	40	-	-	-	102	0.047	0.018	8.4
AC 3.*).F2	1	10	314.3	295.3	10.5	8	290		65	118	68	16	52	6	59	13	-	73[1)]	121	0.026	0.026	9.2
	1	11.5	352.4	333.4	10.5	8	290		60	118	70	16	52	6	59	13	-	59[1)]	107	0.036	0.027	10.3
AC 4.*).F2	2	10	314.3	295.3	10.5	8	320		80	140	101	56	56	8	68	16	8	106	166	0.042	0.065	18.2
	1	11.5	352.4	333.4	11	8	320		80	140	101	16	70	8	68	16	-	106[1)]	166	0.053	0.065	18.9
	1	14	466.7	438.2	13.0	8	320		80	140	87	16	70	8	68	16	-	92[1)]	152	0.081	0.061	18.2
AC 4,9.*).F2	1	11.5	352.4	333.4	10.5	8	320		90	160	100	16	77	-	79	7	-	106	165	0.080	0.105	19.4
	1	14	466.7	438.2	13.0	8	320		90	160	90	16	77	-	79	7	-	92	151	0.125	0.105	20.5
AC 5.*).F2	2	11.5	352.4	333.4	10.5	8	354		90	160	110	54	65	13	76	23	20	106[1)]	175	0.054	0.134	24.2
	1	14	466.7	438.2	13.0	8	354		90	160	105	15	65	13	76	23	-	92[1)]	161	0.154	0.132	26.3
AC 6.*).F2	1	14	466.7	438.2	13.0	8	420		100	185	102	18	80	10	92	20	-	92[1)]	174	0.171	0.321	35.3
	1	16	517.5	489.0	13.0	8	420		100	185	102	18	80	10	92	20	-	92	174	0.320	0.321	38.2
	1	18	571.5	542.9	17.0	6	420		100	185	102	18	80	10	92	20	-	92	174	0.470	0.321	40.5
AC 6,5.*).F2	1	14	466.7	438.2	13.0	8	420		120	222	125	16	90	-	92	38	-	92[1)]	164	0.237	0.404	38.0
AC 7.*).F2	2	14	466.7	438.2	13.0	8	465		120	222	125	85	85	2	88	33	27	92[1)]	164	0.312	0.578	55.8
	1	16	517.5	489.0	13.0	8	465		120	222	125	27	85	2	88	33	-	92	164	0.411	0.578	57.1
	1	18	571.5	542.9	17.0	6	465		120	222	125	18	85	2	88	33	-	92	164	0.519	0.578	60.5
AC 7,5.*).F2	2	14	466.7	438.2	13	8	478		130	222	130	100	115	-	115	16	-	150	240	1.512	0.668	76.3
	1	18	571.5	541.9	17	12	478		130	222	130	20	115	-	115	-	-	150	240	2.306	0.668	87.7
AC 8.*).F2	1	18	571.5	542.9	17.0	12	514		165	250	142	18	84	0	86	10	-	159	225	0.478	0.925	55.3
	1	21	673.1	641.4	17.0	12	514		165	250	142	18	84	0	86	10	-	159	225	0.948	0.925	60.1
AC 9.*).F2	1	18	571.5	542.9	17.0	12	560	75	150	240	140	35	92	0	103	9	-	131	237	0.846	1.232	69.0
	1	21	673.1	641.4	17.0	12	560	75	150	240	140	20	92	0	103	9	-	131	237	1.422	1.232	78.4
AC 10.2.*).F2	2	18	571.5	542.9	17.0	12	580	90	200	316	200	104	104	2.5	107	23	15	215	300	0.770	2.380	109.0
	1	21	673.1	641.4	17.0	12	580	90	200	316	200	26	104	2.5	107	23	-	215	300	1.222	2.380	113.0
AC 11.*).F2	2	21	673.1	641.4	17.0	12	682	90	220	380	210	85	111	0	107	24	15	232	312	3.800	5.311	205.0
	1	24	733.4	692.2	21.0	12	682	90	220	380	210	20	111	0	107	24	-	232	312	5.286	5.311	214.0
AC 11,7*).F2	2	21	673.1	641.4	17.0	24	682	90	220	380	250	114	140	-	136	20	15	245	350	4.489	6.198	220.4
	1	24	733.4	692.2	21.0	24	682	90	220	380	250	20	140	-	136	20	-	245	350	5.341	5.929	227.6
AC 11,9*).F2	2	21	673.1	641.4	17	24	755	-	180	316	210	24	158	-	158	-	14	250	-	2.738	5.964	130.0
	2	24	733.4	692.2	21	12	755	-	180	316	210	22	158	-	158	-	14	250	-	3.049	5.964	131.5

*) For the element versions, see “Technical details” 1) Mounting lengths for flange connecting dimensions to SAE J 620 and/or DIN 6281

The option of mounting the coupling element internally or externally provides two different overall lengths with one and the same coupling hub.

Other flange and length dimensions on request.

Type AC...F2K with bolted hub for radial element change
Flange connecting dimensions to SAE J 620 d and mounting dimensions to DIN 6281

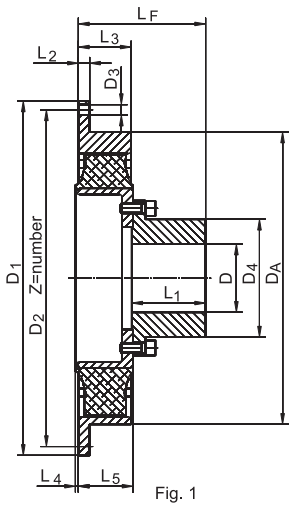


Fig. 1

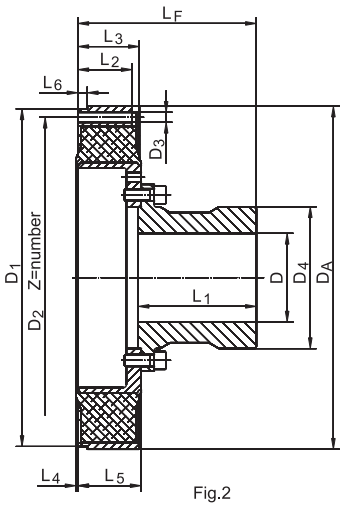


Fig.2

ARCUSAFLEX Coupling size	Fig.	Flange connection to SAE J 620 SAE size	D_1 mm	D_2 mm	D_3 mm	Z	D_A mm	D mm min.	D mm max.	D_4 mm	L_1 mm	L_2 mm	L_3 mm	L_4 mm	L_5 mm	L_6 mm	L_F mm	J_1 outside kgm²	J_2 inside kgm²	Total weight kg
AC 2,6.*).F2K	2	8	263.5	244.5	10.5	6	263	unbored. precentered	55	78	65	33	38	3	42	10	104	0.011	0.017	5.0
	1	10	314.3	295.3	10.5	8	263		55	78	65	10	38	3	42	-	104	0.017	0.017	5.3
	1	11.5	352.4	333.4	10.5	8	263		55	78	65	10	38	3	42	-	104	0.024	0.017	5.6
AC 2,7.*).F2K	1	8	263.5	244.5	10.5	6	224		55	78	65	4	37	5	40	-	102	0.014	0.013	5.4
	1	10	314.3	295.3	10.5	8	224		55	78	65	4	37	5	40	-	102	0.029	0.013	6.0
	1	11.5	352.4	333.4	10.5	8	224		55	78	65	4	37	5	40	-	102	0.047	0.013	6.6
AC 3.*).F2K	-	10	314.3	295.3	10.5	8	290		55	78	65	16	52	6	59	-	121	0.026	0.027	8.1
	-	11.5	352.4	333.4	10.5	8	290		55	78	65	16	52	6	59	-	121	0.026	0.027	8.4
AC 4,1.*).F2K	2	10	314.3	295.3	10.5	8	320		75	112	95	56	56	-	59	8	152	0.042	0.064	11.2
	1	11.5	352.4	333.4	11	8	320		75	112	95	16	70	-	59	-	152	0.053	0.064	11.9
	1	14	466.7	438.2	13	8	320		75	112	95	16	70	-	59	-	152	0.081	0.064	12.6
AC 4,9.*).F2K	1	11.5	352.4	333.4	10.5	8	320		85	127	95	16	77	-	79	-	172	0.080	0.085	15.8
	1	14	466.7	438.2	13.0	8	320		85	127	95	16	77	-	79	-	172	0.125	0.085	19.6
AC 5,1.*).F2K	2	11.5	352.4	333.4	10.5	8	354		85	127	95	54	65	-	68	20	161	0.054	0.107	15.5
	1	14	466.7	438.2	13.0	8	354		85	127	95	15	65	-	68	-	161	0.081	0.107	17.7
AC 6,1.*).F2K	1	14	466.7	438.2	13.0	8	420		110	165	95	18	80	-	82	-	174	0.171	0.243	24.1
	1	16	517.5	489.0	13.0	8	420		110	165	95	18	80	-	82	-	174	0.320	0.243	27.0
	1	18	571.5	542.9	17.0	6	420		110	165	95	18	80	-	82	-	174	0.470	0.243	29.1
AC 6,5.*).F2K	1	14	466.7	438.2	13.0	8	420		130	190	119	18	90	-	92	-	209	0.688	0.542	46.5
AC 7.*).F2K	2	14	466.7	438.2	13.0	8	465		130	190	119	85	85	2	88	27	204	0.312	0.542	40.5
	1	16	517.5	489.0	13.0	8	465		130	190	119	27	85	2	88	-	204	0.411	0.542	41.9
	1	18	571.5	542.9	17.0	6	465		130	190	119	18	85	2	88	-	204	0.519	0.542	45.2
AC 7,5.*).F2K	2	14	466.7	438.2	13.0	8	478		130	190	119	100	115	-	120	15	237	1.512	0.584	66.3
	1	18	571.5	542.9	17.0	12	478		130	190	119	20	115	-	120	-	237	2.306	0.584	77.6
AC 8.*).F2K	1	18	571.5	542.9	17.0	12	514		155	227	162	18	84	0	86	-	245	0.478	0.942	59.1
	1	21	673.1	641.4	17.0	12	514		155	227	162	18	84	0	86	-	245	0.948	0.942	63.9
AC 9.*).F2K	1	18	571.5	542.9	17.0	12	560	75	165	240	140	35	92	0	103	-	237	0.846	1.232	67.5
	1	21	673.1	641.4	17.0	12	560	75	165	240	140	20	92	0	103	-	237	1.422	1.232	78.4
AC 10.2*).F2K	2	18	571.5	542.9	17.0	12	580	90	165	240	200	104	104	2.5	107	15	302	0.770	1.662	80.0
	1	21	673.1	641.4	17.0	12	580	90	165	240	200	26	104	2.5	107	-	302	1.222	1.662	84.0
AC 11.*).F2K	2	21	673.1	641.4	17.0	12	682	90	200	300	210	85	111	0	107	15	312	3.800	3.623	154.0
	1	24	733.4	692.2	17.0	12	682	90	200	300	210	20	111	0	107	-	312	5.286	3.623	164.0
AC 11,7*).F2K	2	21	673.1	641.4	17.0	24	682	90	200	300	250	114	140	-	136	15	381	4.48	4.27	171.7
	1	24	733.4	692.2	21.0	24	682	90	200	300	250	20	140	0	136	-	381	5.34	4.27	179.0
AC 12.*).F2K	1	-	860.0	820.0	20.0	32	780	90	260	390	255	26	135	0	137	-	389	10.70	12.04	329.0
	1	-	920.0	880.0	20.0	32	870	90	260	390	255	27	136	0	137	-	389	15.40	12.04	352.0
	1	-	995.0	950.0	20.0	32	870	90	260	390	255	27	136	0	137	-	389	20.50	12.04	374.0

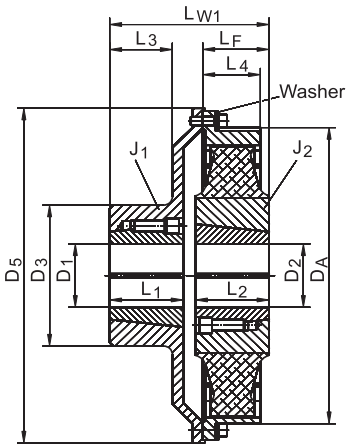
*) For the element versions, see "Technical details"

Other flange and length dimensions on request

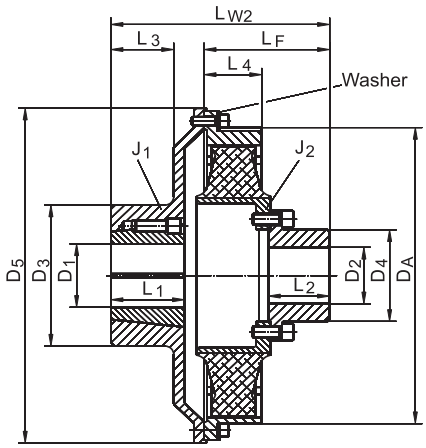
Ordering example: Coupling designation **AC 9 NN. F2K. 18. 237**

- AC 9 — ARCUSAFLEX Coupling size
- NN. — Element version acc. to „Technical details"
- F2K. — Version for the element change
- 18. — Size of flange connection to SAE J 620 (AC12: D_1)
- 237 — Mounting length L_F in mm

Type AC-T....T

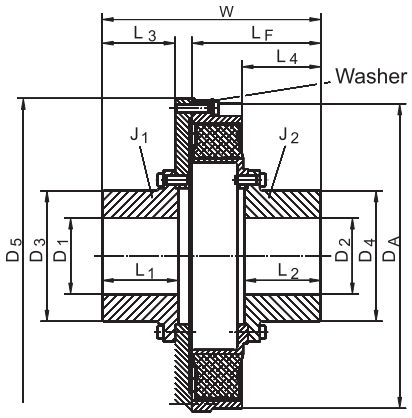


Type AC....TK (for radial element change)

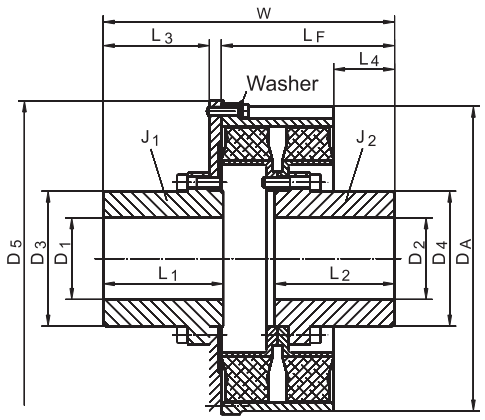


ARCUSAFLEX Coupling size	Taper bushing Nr.	D_1max. mm	Taper bushing Nr.	D_2max. mm	D_3 mm	D_4 mm	D_5 mm	D_A mm	L_1 mm	L_2 mm	L_3 mm	L_4 mm	L_F mm	L_{W1} mm	L_{W2} mm	J_1 kgm²	J_2 kgm²	Total weight kg
AC-T 2,3...T	2012	48	2012	48	102	-	225	222	32	32	23	41	52	84	-	0.026	0.008	7.4
AC-T 2,6...T	2517	60	2517	60	105	-	325	263	45	45	42	38	42	115	-	0.121	0.019	15.9
AC-T 3...T	2517	60	2517	60	105	-	325	290	45	45	42	52	58	131	-	0.133	0.026	18.2
AC 3...TK	2517	60	-	55	105	78	325	290	45	65	42	52	121	-	194	0.133	0.027	17.8
AC-T 4...T	3030	75	3030	75	140	-	360	320	76	76	64	60	68	166	-	0.229	0.059	29.4
AC 4.1...TK	3030	75	-	75	140	112	360	320	76	95	64	60	152	-	250	0.229	0.064	27.2
AC-T 4,9...T	3535	90	3535	90	170	-	360	320	89	89	74	77	92	209	-	0.290	0.097	37.8
AC 4,9...TK	3535	90	-	85	170	127	360	320	89	95	74	77	172	-	289	0.290	0.085	36.8
AC-T 5...T	3535	90	3535	90	170	-	360	354	89	89	74	65	76	193	-	0.275	0.131	42.4
AC 5.1...TK	3535	90	-	85	170	127	360	354	89	95	74	65	161	-	278	0.275	0.107	37.0
AC-T 6...T	4545	110	4040	100	220	-	475	420	115	102	98	80	92	221	-	0.957	0.334	80.8
AC 6.1...TK	4545	110	-	110	220	165	475	420	115	95	98	80	174	-	308	0.957	0.243	68.9
AC-T 6,5...T	4545	110	4535	110	220	-	475	420	115	90	98	90	92	226	-	1.425	0.432	96.4
AC 6,5...TK	4545	110	-	-	220	190	475	420	115	119	98	90	209	-	343	1.425	0.542	90.3
AC-T 7...T	4545	110	4535	110	220	-	475	465	115	90	98	85	87	221	-	1.049	0.696	97.5
AC 7...TK	4545	110	-	130	220	190	475	465	115	119	98	85	204	-	338	1.049	0.542	80.7

Type AC....TK (for radial element change)



Type AC....D TK (for radial element change)



ARCUSAFLEX Coupling size	D_1max. mm	D_2max. mm	D_3 mm	D_4 mm	D_5 mm	D_A mm	L_1 mm	L_2 mm	L_3 mm	L_4 mm	L_F mm	L_W mm	J_1 kgm²	J_2 kgm²	Total weight kg
AC 7 ,,, TK	130	130	190	190	475	465	119	119	117	119	204	346	1.335	0.558	95.7
AC 8 ... TK	150	150	230	230	580	514	162	162	159	166	245	437	2.567	0.950	133.0
AC 8D ... TK	150	150	230	230	580	525	226	226	201	142	314	543	3.349	1.767	198.0
AC 9 ... TK	150	150	240	240	580	560	140	140	134	145	237	393	3.300	1.232	140.0
AC 9D ... TK	160	160	248	248	580	560	220	220	195	113	318	535	4.660	2.515	235.0
AC 10.2 ... TK	160	160	240	240	600	580	200	200	195	202	306	531	3.465	1.652	167.0
AC 11 ... TK	200	200	300	300	682	682	210	210	205	209	320	562	10.370	3.623	296.0
AC 12 ... TK	260	260	390	390	870	772	255	255	252	259	389	667	27.200	12.040	498.0

Other flange and length dimensions on request / For the element versions, see „Technical details”

ARCUSAFLEX flywheel couplings

with 2 elements operating in tandem
Type AC...D.F2 with bolted hub and flange connecting dimensions to SAE J 620 d

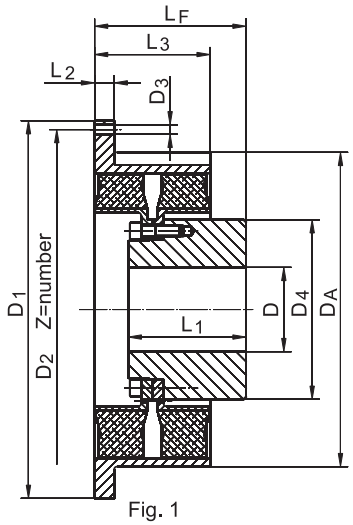


Fig. 1

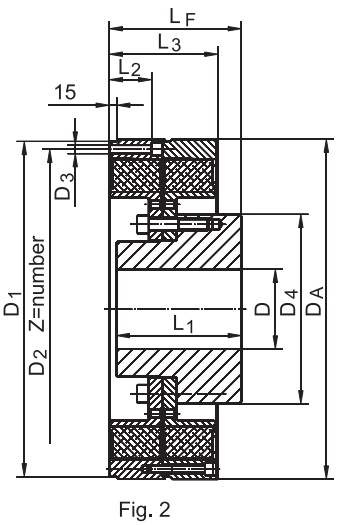


Fig. 2

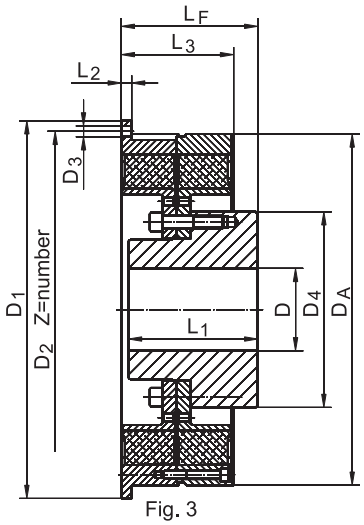


Fig. 3

ARCUSAFLEX Coupling size	Fig.	Flange connection to SAE J 620 SAE size	D_1 mm	D_2 mm	D_3 mm	Z	D_A mm	D mm min.	D mm max.	D_4 mm	L_1 mm	L_2 mm	L_3 mm	L_F mm	J_1 outside kgm²	J_2 inside kgm²	Total weight kg
AC 8D.*).F2	1	18	571.5	542.9	17.0	12	525	-	165	250	174	25	172	255	1.007	1.554	85.4
	1	21	673.1	641.4	17.0	12	525	-	165	250	174	18	172	255	1.477	1.554	90.2
AC 9D.*).F2	1	18	571.5	542.9	17.0	12	560	75	170	316	210	35	205	270	1.660	2.801	140.6
	1	21	673.1	641.4	17.0	12	560	75	170	316	210	25	205	270	2.168	2.801	146.5
AC 10.2D.*)F2	1	21	673.1	641.4	17.0	24	585	90	200	310	250	26	210	350	1.996	3.840	168.0
	1	24	733.4	692.2	21.0	12	585	90	200	310	250	26	210	350	2.575	3.840	173.0
AC 11D.*).F2	2	21	673.1	641.4	17.0	12	682	90	220	380	250	85	218	265	7.600	6.966	266.0
	3	24	733.4	692.2	21.0	12	682	90	220	380	250	20	218	265	9.086	6.966	275.0
AC 11,7D.*).F2	3	24	733.1	692.2	21.0	24	682	90	220	380	280	20	276	375	9.370	8.900	328.4

*) For the element versions, see “Technical details” Other flange and length dimensions on request

Ordering example: Coupling designation **AC 9D. NN. F2.18. 270**

ARCUSAFLEX Coupling size
Element version acc. to „Technical details”
Size of flange connection to SAE J 620
Mounting length LF in mm

with 2 elements operating in tandem
Type AC...D.F2 with bolted hub and flange connecting dimensions to SAE J 620 d

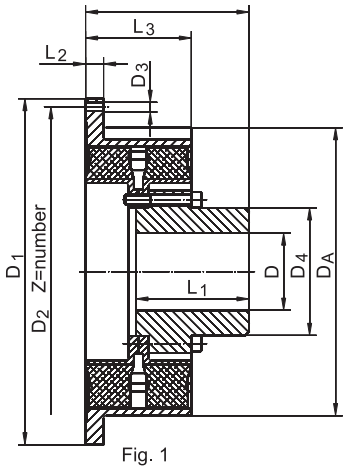


Fig. 1

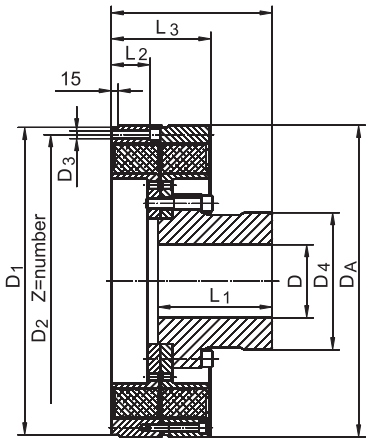
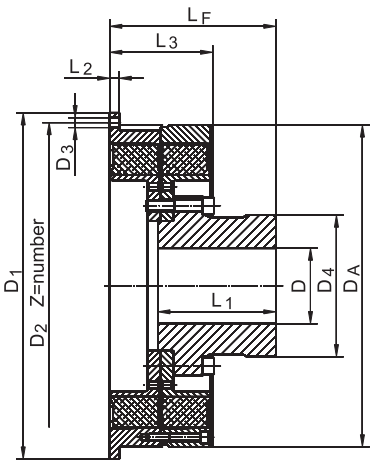
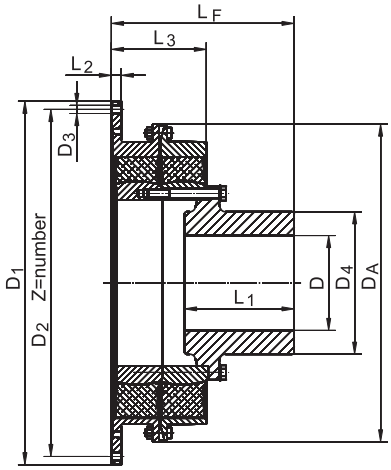


Fig. 2





ARCUSAFLEX Coupling size	Fig.	Flange connection to SAE J 620 SAE size	D_1 mm	D_2 mm	D_3 mm	Z	D_A mm	D mm min.	D mm max.	D_4 mm	L_1 mm	L_2 mm	L_3 mm	L_F mm	J_1 outside kgm²	J_2 inside kgm²	Total weight kg
AC 8D.*).F2K	1	18	571.5	542.9	17.0	12	525	-	150	227	226	25	172	307	1.007	1.780	104.0
	1	21	673.1	641.4	17.0	12	525	-	160	227	226	18	172	307	1.477	1.780	109.0
AC 9D.*).F2K	1	18	571.5	542.9	17.0	12	560	75	160	248	220	35	205	318	1.660	2.515	131.0
	1	21	673.1	641.4	17.0	12	560	75	160	248	220	25	205	318	2.168	2.515	135.5
AC 10.2D.*).F2K	1	21	673.1	641.4	17.0	24	585	90	160	240	250	26	210	350	1.996	3.196	147.0
	1	24	733.4	692.2	21.0	12	585	90	160	240	250	26	210	350	2.575	3.196	152.0
AC 11D.*).F2K	2	21	673.1	641.4	17.0	12	682	90	200	300	250	85	218	352	7.600	6.516	260.0
	3	24	733.4	692.2	21.0	12	682	90	200	300	250	20	218	352	9.086	6.516	270.0
AC 11,7D.*).F2K	3	24	733.1	692.2	21.0	24	682	90	200	300	280	20	276	405	9.37	7.36	284.6
AC 12D.*).F2K	4	-	860.0	820.0	21.0	32	870	90	260	390	300	19	258	496	22.30	20.00	540.0
	4	-	920.0	880.0	20.0	32	870	90	260	390	300	27	266	500	26.20	20.00	555.0
	4	-	995.0	950.0	22.0	32	870	90	260	390	300	27	266	500	31.20	20.00	601.0

*) For the element versions, see “Technical details” Other flange and length dimensions on request

Ordering example: Coupling designation **AC 10D NN. F2K. 21. 350**

ARCUSAFLEX coupling size
Element version acc. to “Technical details”
Version for the element change
Size of flange connection to SAE J 620 (AC12D: D_1)
Mounting length L_F in mm

Mounting instructions

Type AC-T...F2 with taper bushing

How to mount the taper bush

1. The outer taper of the taper bush and the bore with the inner taper of the element hub shall show bright metal and must be free of grease prior to mounting. Preservatives must be removed completely.

2. Insert the taper bush into the element hub and line up all connecting bores. Make sure that half threaded holes coincide with half plain holes (Fig. 1).

3. Screw in lightly greased or oiled assembly screws. Do not tighten the screws yet (Fig. 2).

4. Slide the element hub with inserted taper bush onto the cleaned shaft with keyway and put it into the mounting position L_X (Fig. 3).

5. Tighten the screws uniformly up to the tightening torque M_{A1} specified in table 1 using a torque wrench.

6. The screws can be retightened again by tapping against the taper bush with a hammer using an intermediate plate. Repeat, if necessary.

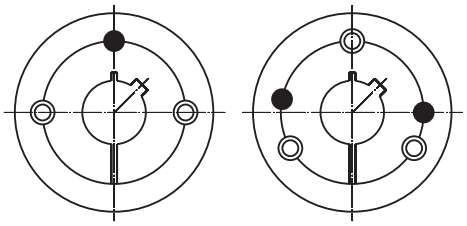


Fig. 1

No. 1610
2012
2517
3030

No. 3535
4040
4535/4545
5040

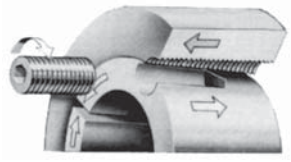


Fig. 2

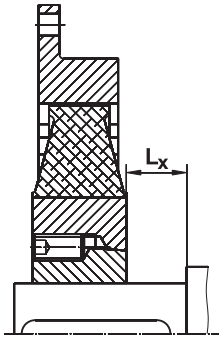
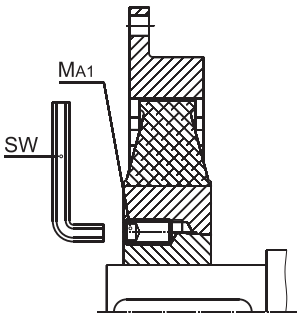


Fig. 3

Tightening torques for mounting the taper bush

Table 1

Coupling size		AC-T 1,5	AC-T 2,3	AC-T 2,6 AC-T 2,7 AC-T 3	AC-T 4	AC-T 4,9 AC-T 5	AC-T 6	AC-T 6,5 AC-T 7 AC-T 7,5	AC-T 8 AC-T 9
Taper bush No.		1610	2012	2517	3030	3535	4040	4535 4545	5040
UNC screw size *)		$^3/_{18}$ x 16	$^7/_{16}$ x 22	$^1/_2$ x 25	$^5/_8$ x 32	$^1/_2$ x 38	$^5/_8$ x 45	$^3/_4$ x 50	$^7/_8$ x 57
Tightening torque M_{A1}	Nm	20	31	49	92	115	172	195	271
Width across flats SW	mm	5	6	6	8	10	12	14	14



*) No. 1610/2012/2517/3030 set screw
No. 3535/4040/4535/4545/5040 cap screw

How to remove the element hub with taper bush

1. Loosen and remove all screws. Depending on the taper bush size, screw either 1 or 2 greased screws into the half pulling-off thread(s) of the taper bush (Fig. 4).

2. Tighten the screws uniformly until the taper bush is loose in the element hub.

3. As soon as the taper bush is loose, the element hub can be pulled off the shaft together with the taper bush.

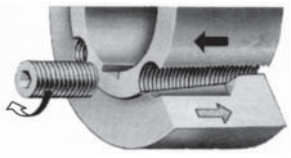


Fig. 4

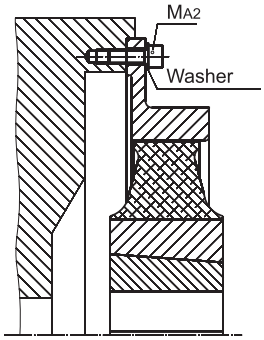
Tightening torques

All bolts and screws must be tightened to the specified torques during assembly in order to ensure a reliable torque transmission. Prior to putting the machinery into operation, all bolts and screws of the coupling must be checked for proper fit and tightness. The indicated torques apply to an total friction factor of μ = 0.14. For further questions please ask REICHKUPPLUNGEN.

Table 2
Tightening torques for the bolted flange connection
to the engine flywheel (grade 8.8)

SAE flywheel flange	6½ 7½	8 10 11½	14 16	18 21	24
Metric bolts	M8	M10	M12	M16	M20
Tightening torque M_{A2} [Nm]	25	50	85	210	420
Imperial size bolts	$^5/_{16}$ - 18	$^3/_8$ - 16	$^1/_2$ - 13	$^5/_8$ - 11	$^3/_4$ - 10
Tightening torque M_{A2} [Nm]	24	42	102	203	340

Note: The **aluminium flanges** of the coupling sizes AC 2,3 - AC 10D have to be mounted only with **washers**. We recommend to use washers as big as possible, but minimum dimensions according to DIN 433. If needed bolts of grade 10.9 with suitable washers and the corresponding tightening torque can be used, please consult us.



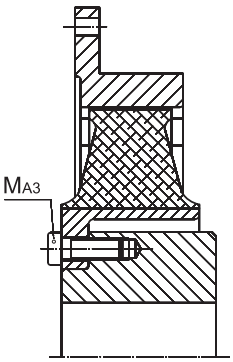
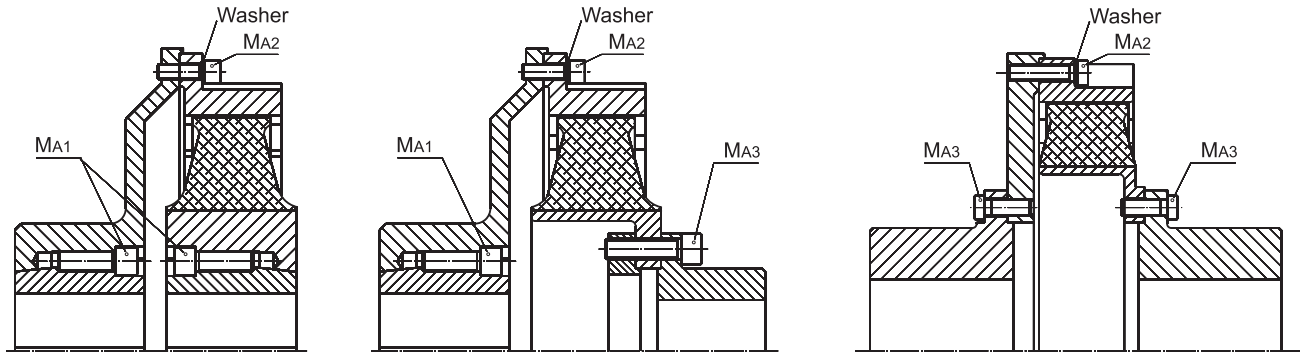


Table 3
Tightening torques for the bolted hub connection
Types AC...F2 and AC...F2.K (grade 8.8)

Coupling size	AC 2,3	AC 2,6 AC 3 AC 4/4.1	AC 4,9 AC 5/5.1	AC 6/6.1 AC 6,5	AC 7/AC 7,5 AC 8/AC 8D AC 9/AC 9D		AC 10.2/AC 10.2D AC11/AC11D AC11,7/AC11,7D AC 11,9/AC 12		AC 12D
Bolt size	M8	M12	M16	M16	M16	M20	M20	M24	M24 (10.9)
Tightening torque M_{A3} [Nm]	25	85	210	210	210	420	420	710	1000

Shaft couplings



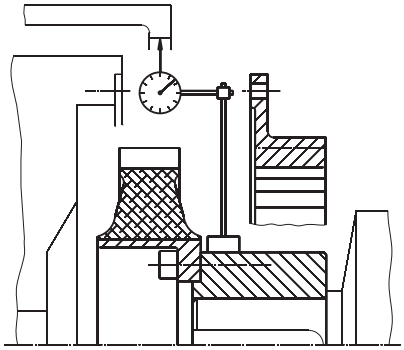
Coupling size	AC-2,3	AC 2,6 AC-3 AC 4/4.1	AC 4,9 AC 5/5.1	AC 6/6.1 AC 6,5 AC 7/AC 7,5	AC 8/AC 8D AC 9/AC 9D		AC 10.2/AC 10.2D AC11/AC11D AC11,7/AC11,7D AC 11,9/AC 12	
Bolt size	M8	M10	M10	M12	M16	M20	M20	M24
Tightening torque M_{A2} [Nm]	25	50	50	85	210	420	420	710

For the tightening torques MA1 see the mounting instruction for taper bushes table 1.
For the tightening torques MA3 see table 3.

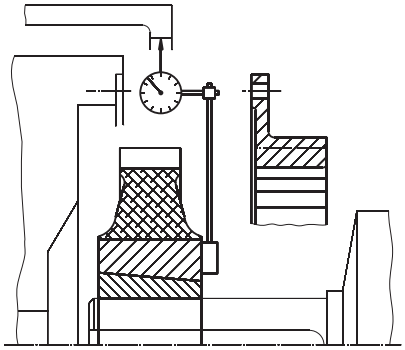
Alignment

Careful alignment of the coupling is an essential requirement for detached, non-flanged machinery in order to ensure proper functioning of the coupling and to avoid premature wear of the rubber element.

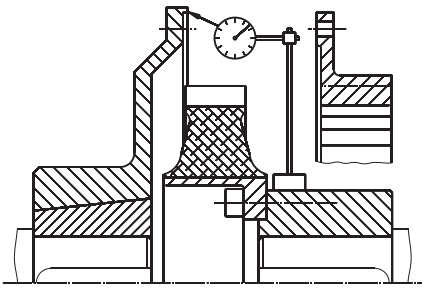
Flywheel couplings shall be aligned from the shaft-side coupling half to either one of the machined surfaces of the engine flywheel or engine housing. Where shaft couplings are used, the angular and radial displacements between the two coupling halves are determined by applying the usual dial indicator method. The alignment requirements of the other application components have to be considered additionally.



ARCUSAFLEX flywheel coupling
Type AC...F2



ARCUSAFLEX flywheel coupling
Type AC-T...F2

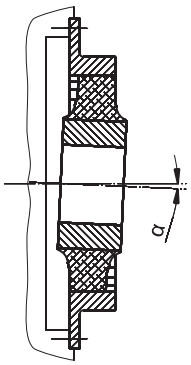


ARCUSAFLEX shaft coupling

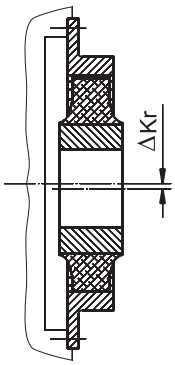
Permissible shaft displacement

The permissibility of major shaft displacements depends on a number of factors such as coupling size, shore hardness of the rubber element, operating speed and torque load of the coupling. The following reference values refer to an operating speed of ≈ 1500 rpm.

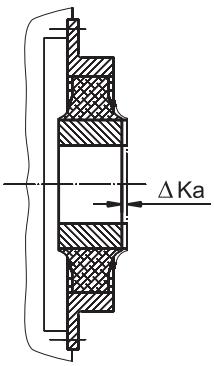
Precise alignment prevents premature wear of the rubber element.



Angular displacement



Radial displacement



Axial displacement

Coupling size	1,5	2,3	2,6	3	4 4.1	4,9	5 5.1	6 6.1	6,5	7	7,5	8 8D	9 9D	10 10D	11,7/11,7D 11/11,9 11D	12 12D
Permissible radial displacement Δ Kr [mm]	0.8	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.3	1.3	1.3	1.4	1.5	1.5	1.5	1.5
Permissible angular displacement α [°]	0.5°	0.5°	0.5°	0.5°	0.5°	0.5°	0.5°	0.4°	0.4°	0.4°	0.4°	0.4°	0.4°	0.3°	0.3°	0.3°
Permissible axial displacement Δ Ka [mm]*)	±2.5	±3	±4	±7	+16/-6	±7	±5	±7	±4	±6	±7	±5	±4	±3	±4	±3

Larger displacements of short duration, as may occur when starting and stopping the diesel engine, are permissible. These maximum displacements must not occur simultaneous.

*) At types AC...F2K and AC...TK the axial fitting length LF of the coupling should always offer a plus tolerance within the possible tolerance range in order to reach max. axial movability of the dismantled coupling element.

Safety precautions

It is the customer‘s and user‘s responsibility to observe the national and international safety rules and laws. Proper safety devices must be provided for the coupling to prevent accidental contact.

Check all bolted connections for the correct tightening torque and fit after a short running period preferably after a test run.

Details required for coupling design

Torsional vibration calculation according to the two-mass system (DIN 740 Part 2)

GENERAL:

1.	Project				
2.	Application	(CHP plant, emergency power generator, fire extinguishing pump,…)			
3.	Type of duty cycle	(Continuous duty, emergency power operation, …)			
4.	Place of installation/ erection		Ambient temperature	Tu [°C]	
5.	Acceptance/class/rules governing the coupling design				

ENGINE SIDE:

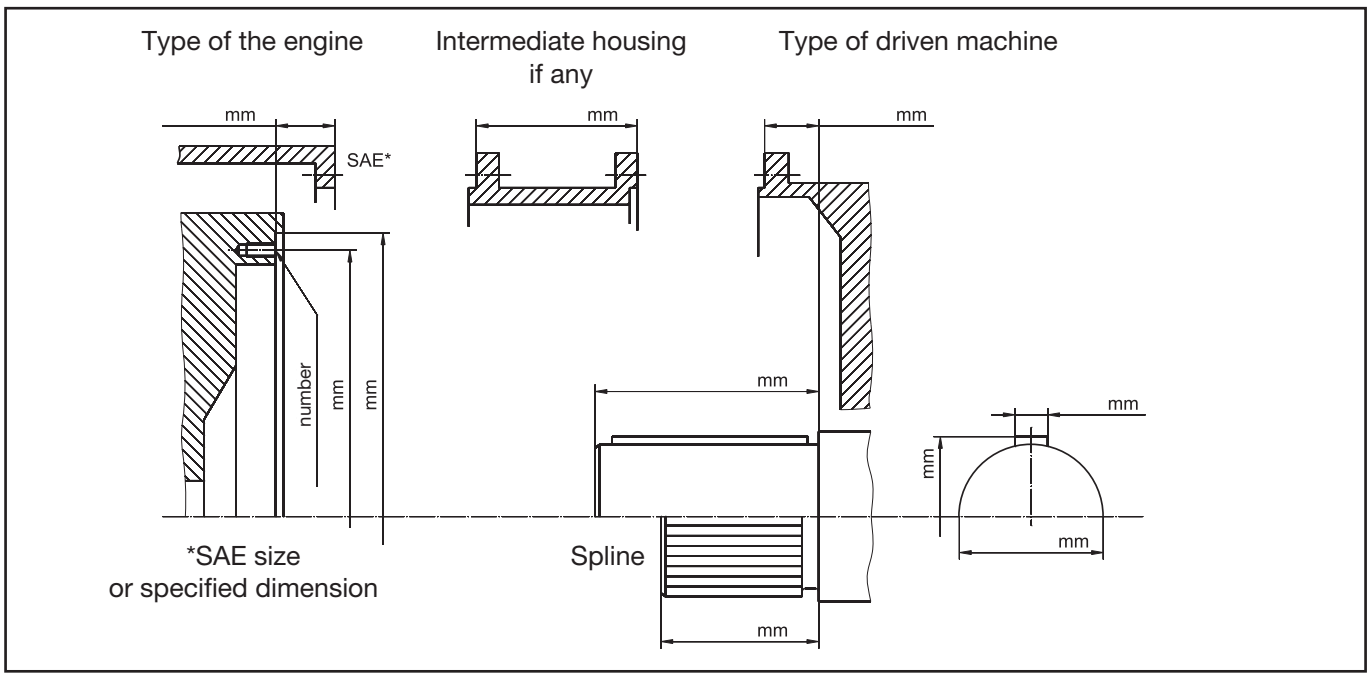
1.	Engine (manufacturer, designation/type) Diesel ☐ Gas ☐				
2.	Engine power (nominal operation)		P [kW]		
3.	Engine speed (nominal speed)		n [rpm]		
4.	Idle speed	Existing? Yes☐ No☐ If adjustable: from … to	n [rpm]		
5.	In case of speed-variable operation: Speed range from …to		n [rpm]		
	Please attach a corresponding speed/torque/power diagram				
6.	Total displacement	V_H [ccm]	R/V (angle)	No. of cylinders	
7.	Mass moment of inertia (cpl. engine incl. damper, flywheel)		J [kgm²]		
8.	Mass moment of inertia (flywheel; drawing, if any)		J [kgm²]		

DRIVEN SIDE:

1.	Type (generator, pump splitter gearbox, pump, compressor,…)		
2.	Type (manufacturer, designation/type)		
3.	Mass moment of inertia	J [kgm²]	
4.	Connection dims. (D x L, splined shaft (standard), flange,..)		

For split systems: System sketch indicating the individual inertias (with specification of the reference speed) and transmission ratios

If the prime mover is to be flanged to the engine using an intermediate housing we kindly ask you to specify the dimensions and details requested in the sketch below so that we can determine the optimal mounting position.



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