

Coupling

Series SGEA-SGEG



Couplings are used to connect the shaft of the motor and the pump.

Due to excellent design, the couplings correct a certain amount of shaft misalignment as the spider element allows an amount of flexibility. The coupling also can absorb noise emissions caused by shaft movement. Available in two types, aluminium and cast iron, with spider options and a wide range of motor sizes from **0.15 kW (size 63) to 400 kW (size 400)**.

Technical data

Materials

- **Motor side half coupling**
Pressure die-cast aluminium alloy/cast iron.
- **Pump side half coupling**
Pressure die-cast aluminium alloy/cast iron.
- **Spider element**
Oilproof rubber black colour, hardness 87 Sh.A
Polyurethane resin red colour, hardness 98 Sh.A.

Working temperature range

- **Working temperature range**
Oilproof rubber -30°C to +90° C
Polyurethane resin -40°C to +120°C
For values outside this range,
please contact our Technical Sales Department.

Special applications

- **For non standard applications, please contact our technical sales department.**

Fluids compatibility

- **Bell housing components compatibility with:**
 - Mineral oils**
HH-LL-HM-HR-HV-HC types as per ISO 6743/4
 - Water-based emulsions**
HFAE – HFAS types as per ISO 6743/4
 - Water-glycol**
HFC type as per ISO 6743/4
- Ask for anodised version.**

How to use this catalogue

This catalogue provides the technical and dimensional information needed to select the correct combination of coupling components.

• **Once the pump & motor have been selected:**

- 1 Calculate the correct coupling size, using information on page 43
- 2 With this information, identify the correct motor side half coupling from chart 15, page 44.
- 3 Identify the spider element to be fitted, from chart 16, page 45.
- 4 Identify the correct drilling code to be used on the pump side half coupling from chart 18, page 47.
- 5 Identify the pump side half coupling from chart 17, page 46

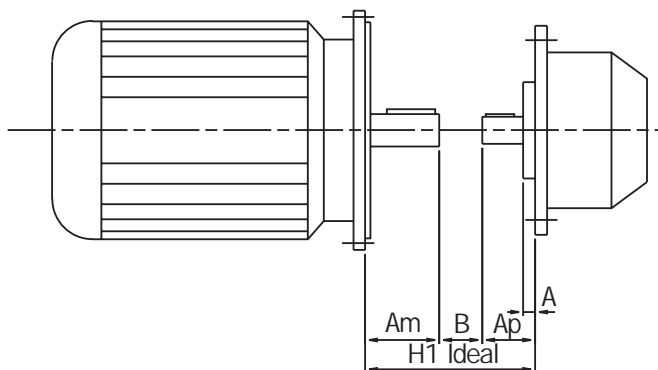
NB. The height of the pump's side half coupling must comply to the conditions reported in Chart 17, Page 46 (Lmin/max - Dmin/max) and the conditions reported below.

Pump side half coupling length calculation example data.

DATA

- H1** Bell housing height
A Spigot width
Am Motor shaft projection
B Spider element thickness
Ap Pump shaft projection

Pump side half coupling length \leq bell housing total $H - A - B - A$



Half coupling options

Measure the coupling according to the type of fitting and application to be carried out and according to the following charts:

CHART 14

Half coupling type	External diameter mm	Nominal torque Me - Nm	Transmitted maximum torque Me - Nm
SGEA01	43	15	20
SGEA21	68	160	190
SGEA31	85	340	380
SGEA51	110	550	620
SGEG40	95	550	620
SGEG60	120	760	850
SGEG80	160	2200	2500
SGEG90	200	5500	6100

The data related to the nominal torque and to the maximum torque are reported to coupling mounted with standard spider series **EGE*****(see page 45).

For transmissions with higher torques please use elastic inserts series **EGE**RR**.

Torque transmitted by electric motor:

Mt: $9560 \times \text{kW} / \text{rpm no.} = \text{Nm}$

Me > $\text{Mt} \times \text{S} = \text{Nm}$

Where:

Mt: Torque transmitted by electric motor

Me: Torque transmitted by coupling – see chart 14

kW: Electric motor power

rpm no.: Motor revolution per minute

S: Service factor - see chart 14A

CHART 14/A

Small pumps, with uniform functioning and low working pressures e.g. Machine tools with rotational movement – 5/8 manoeuvres per hour	1.3
Small pumps, with uniform functioning and high working pressures e.g. Lifting devices – 120-150 manoeuvres per hour	1.5
Pumps with non uniform functioning e.g. Lifting devices – 280-300 manoeuvres per hour	1.7

Example

Electric motor 4 kW

Pump with uniform functioning and low working pressure:

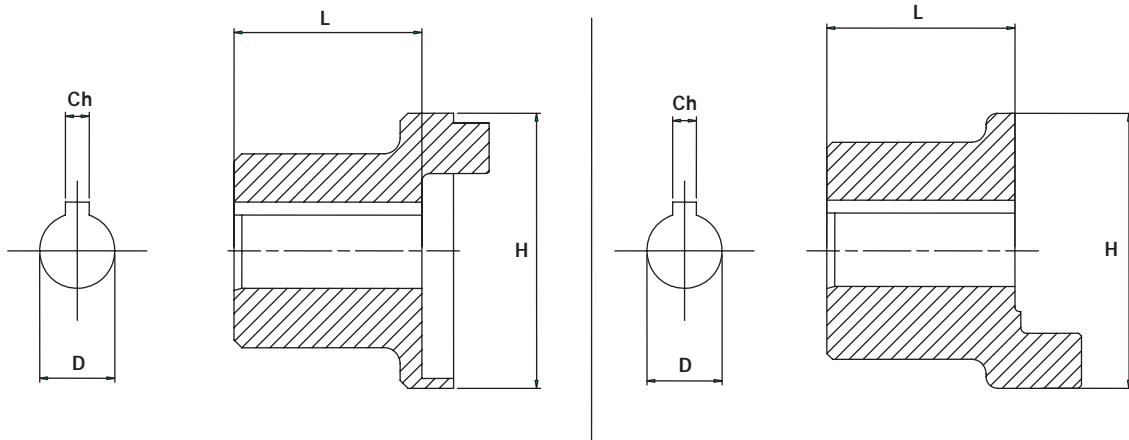
Mt: $9560 \times 4 / 1500 = 25.45 \text{ Nm}$

Me > $25.49 \times 1.3 = 33 \text{ Nm}$

SGEA21 half coupling complies to the above condition.

NB. Couplings to fit with a splined shaft are only available in cast iron. (SGEG series).

Motor's side half couplings



SGEA series aluminium coupling with rubber pad covering

SGEG series cast iron coupling without rubber pad covering

CHART 15

4 poles 1500 rpm motor				Motor's side half couplings dimension				
Motor Frame Size	kW	Hp	Motor shaft	Half coupling code	H	L	D	Ch
63	0.12 - 0.16	0.18 - 0.24	11x23	SGEA01M01021	43	21	11	4
71	0.25 - 0.34	0.37 - 0.50	14x30	SGEA01M02028	43	28	14	5
80	0.53 - 0.75	0.75 - 1	19x40	SGEA01M03040	43	44	19	6
				SGEA21M03040	68	44	19	6
90	1.1 - 1.5	1.5-2	24x50	SGEA01M04050	43	50	24	8
				SGEA21M04050	68	50	24	8
100 - 112	2.2-4	3-5.5	28x60	SGEA21M05060	68	60	28	8
				SGEA31M05060	85	60	28	8
				SGEG40M05060	95	60	28	8
132	5.5-7.5	7.5-12.5	38x80	SGEA31M06077	85	77	38	10
				SGEA51M06070FG	110	70	38	10
				SGEG40M06080	95	80	38	10
160	11-15	15-20	42x110	SGEA51M07109	110	110	42	12
				SGEG40M07110	95	110	42	12
180	18-22	25-30	48x110	SGEA51M08109	110	109	48	14
				SGEG40M08110	95	110	48	14
200	30	40	55x110	SGEA51M09109	110	109	55	16
				SGEG40M09110	95	110	55	16
				SGEG60M09110	120	110	55	16
225	37-45	50-61	60x140	SGEA51M10109	110	109	60	18
				SGEG60M10140	120	140	60	18
250	55	75	65x140	SGEG60M11140	120	140	65	18
				SGEG80M11140	160	140	65	18
280	75-90	102-122	75x140	SGEG60M12140	120	140	75	20
				SGEG80M12140	160	140	75	20
				SGEG90M12100	200	100	75	20
315	110-200	150-272	80x170	SGEG80M13170	160	170	80	22
				SGEG90M13100	200	100	80	22
355	250-315	340-428	95x140	SGEG90M15100	200	100	95	25
400	355-400	482-544	100x210	SGEG90M16100	200	100	100	28

NB. A grub screw hole can be made on request (e.g. code **SGEA21M01021FG**).

Elastic inserts

Series EGE * *

Made of black oil-resistant rubber (87 shore A), the elastic inserts serve as a connecting element between the two half-couplings (motor - pump).

These products are suitable for the industrial sector they withstand temperature from -40°C to +90°C.

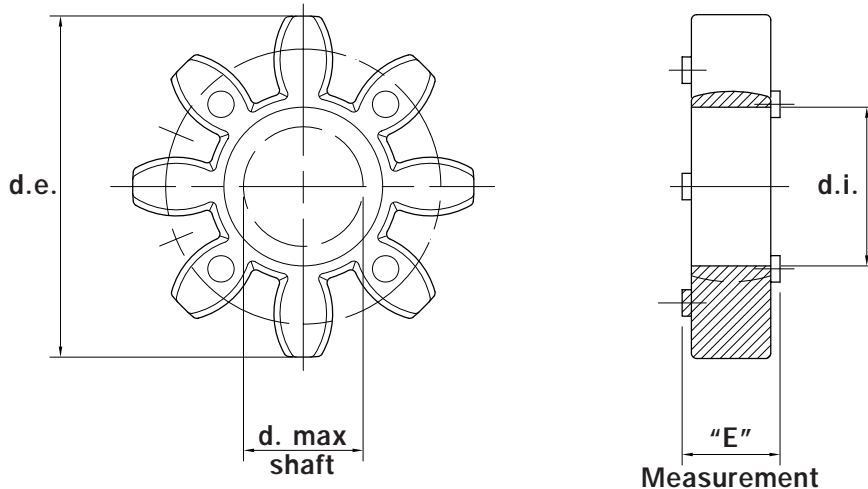


CHART 16

Half coupling type	External code	E	di.*	d.e.	d.max	Nominal torque Nm	Torque max Nm
SGEA01	EGE0	15	18	40	16	15	20
SGEA21	EGE2	18	30	65	25	160	190
SGEA31	EGE3	22	38	80	35	340	380
SGEA51	EGE5	26	51	105	45	550	620
SGEG40	EGE4	24	46	95	40	550	620
SGEG60	EGE6	28	60	120	55	760	860
SGEG80	EGE8	38	81	160	75	2200	2500
SGEG90	EGE9R	42	100	200	95	5500	6100

Series EGE * * RR

Polyurethane resin, red colour spider, is correct for applications with elevated transmission.

They withstand temperatures from -40° to +120°C.

CHART 16 A

Half coupling type	Code	E	di.*	d.e.	d.max	Nominal torque Nm	Torque max Nm
SGEA01	EGE0RR	15	18	40	16	28	40
SGEA21	EGE2RR	18	30	65	25	280	320
SGEA31	EGE3RR	22	38	80	35	580	650
SGEA51	EGE5RR	26	51	105	45	945	1050
SGEG40	EGE4RR	24	46	95	40	950	1060
SGEG60	EGE6RR	28	60	120	55	1230	1370
SGEG80	EGE8RR	38	81	160	75	3450	3840
SGEG90	EGE9RR	42	100	200	95	8900	9900

N.B. The max shaft measurement refers to the shaft with key fitted.

Pump side half couplings

Pump's side half coupling SGEA series aluminium

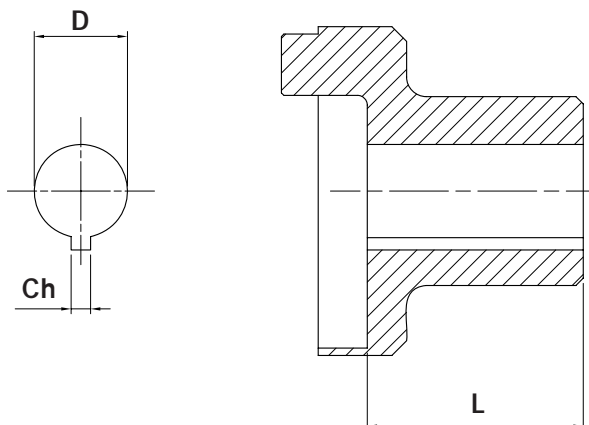


CHART 17

Half coupling type	D min	D max	L max	Lmin	Standard length												
SGEA21 *** **	15	24	23	50	35	40	42	44	48	50	-	-	-	-	-	-	-
SGEA21 *** **	25	28	40	60	40	42	44	48	50	55	58	60	-	-	-	-	-
SGEA31 *** **	18	32	40	60	42	45	48	50	52	55	58	60	-	-	-	-	-
SGEA31 *** **	38	42	60	80	60	65	70	77	80	-	-	-	-	-	-	-	-
SGEA51 *** **	18	40	40	70	42	45	48	50	52	55	58	60	65	70	-	-	-
SGEA51 *** **	38	55	70	109	70	75	80	85	90	95	100	105	109	-	-	-	-

Add pump drilling code and length to half coupling code

e.g. **SGEG40D02040** **D02** see **Charts 5** **040** Half coupling length (see **Chart 17**).

NB. A grub screw hole can be made on request

e.g. code **SGEG40D02040FG**

Pump side half couplings SGEG series cast iron

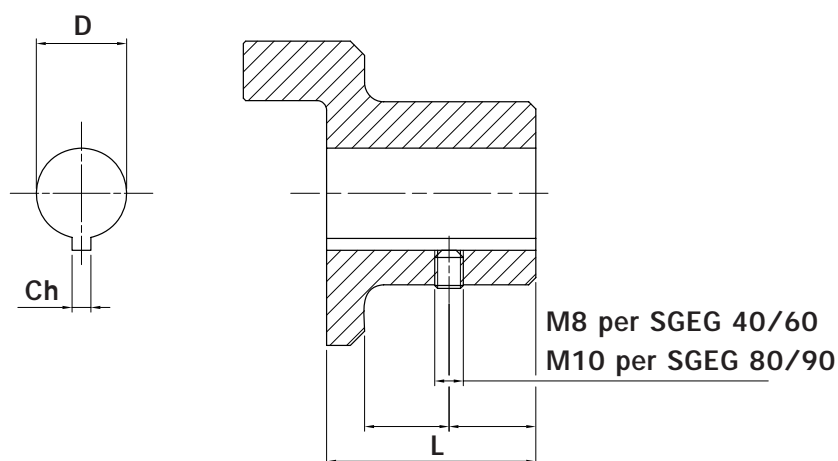


CHART 17 A

Half coupling type	D min	D max	L max	Lmin	Standard length
SGEG40 *** **	/	55	30	110	
SGEG60 *** **	/	75	40	140	every 5 mm
SGEG80 *** **	/	85	50	170	
SGEG90 *** **	/	100	50	100	

All cast iron half couplings series SGEG has the screw UNI 5929 DIN 916 in the hub to fix the half coupling on the shaft of the pump

NB. For different length please contact the technical sales department.

Couplings machine codes

CHART 18

Cylinder shafts drilling code														
Diameter	Ch	Code	Diameter	Ch	Code	Diameter	Ch	Code	Diameter	Ch	Code	Diameter	Ch	Code
12	4	C00	35	10	D05	14	5	M02	19,05	4,76	G01	13,45	3,18	H07
15	5	C01	40	12	D06	19	6	M03	22,22	4,76	G02	17,46	4,76	H08
16	4	C02	45	14	D07	24	8	M04	22,22	6,35	G03	12,7	3,18	H09
16	5	C03	50	14	D08	28	8	M05	25,4	6,35	G04	15,87	3,97	L00
17	5	C04	70	20	D09	38	10	M06	26,94	4,76	G05	22,22	4	L01
18	6	C05	22	8	D10	42	12	M07	31,75	6,35	G06	28,58	6,35	L02
20	5	C06	8	3	E00	48	14	M08	31,75	7,94	G07	19,05	6,35	L03
19	5	C07	10	3	E01	55	16	M09	34,94	7,94	G08	47,63	12,7	L04
30	10	C08	22	5	E02	60	18	M10	38,1	9,52	G09	85,73	22,23	L05
20	6	C09	32	8	E03	65	18	M11	41,27	9,52	H00	60,33	15,88	L06
16	5	C10	35	8	E04	75	20	M12	44,45	11,11	H01	60,33	12,7	L07
22	6	D00	82	22	E05	80	22	M13	50,8	12,7	H02	73,03	19,05	L08
24	6	D01	25	7	E06	90	25	M14	53,94	12,7	H03	92,07	22,22	L09
25	8	D02	63	18	E07	95	25	M15	19,02	3,17	H04	41,6	12	L10
30	8	D03	9	3	M00	100	28	M16	25,4	4,76	H05			
32	10	D04	11	4	M01	11,11	3,18	G00	15,87	4,76	H06			

Combinations with double key:

G02+G03 **2E** G06+G07 **2G** C07+M03 **2L** D01+M04 **2N**

G04+G05 **2F** C02+C03 **2H** C06+C09 **2M** D03+C08 **2P**

e.g. code SGEA21G020502E

CHART 18 A

Splined form drilling code (only cast iron)											
Form	Standard	Code	Form	Standard	Code	Form	Standard	Code	Form	Standard	Code
17th 8/16	Diametral Pitch	PD01	30th 32/64	Diametral Pitch	PD24	W55x2x26	DIN 5480	PA16	A55x50	DIN 5482	PB18
14th 12/24	Diametral Pitch	PD02	33th 32/64	Diametral Pitch	PD25	W60x2x28	DIN 5480	PA17	A58x53	DIN 5482	PB19
16th 12/24	Diametral Pitch	PD03	23th 40/80	Diametral Pitch	PD26	W70x2x34	DIN 5480	PA18	A60x55	DIN 5482	PB20
17th 12/24	Diametral Pitch	PD04	36th 48/96	Diametral Pitch	PD27	W80x2x38	DIN 5480	PA19	A62x57	DIN 5482	PB21
9th 16/32	Diametral Pitch	PD05	41th 48/96	Diametral Pitch	PD28	W60x3x18	DIN 5480	PA20	A65x60	DIN 5482	PB22
11th 16/32	Diametral Pitch	PD06	47th 48/96	Diametral Pitch	PD29	W70x3x22	DIN 5480	PA21	A68x62	DIN 5482	PB23
12th 16/32	Diametral Pitch	PD07	13th 8/16	Diametral Pitch	PD30	A15x12	DIN 5482	PB01	A70x64	DIN 5482	PB24
13th 16/32	Diametral Pitch	PD08	15th 8/16	Diametral Pitch	PD31	A17x14	DIN 5482	PB02	A72x66	DIN 5482	PB25
15th 16/32	Diametral Pitch	PD09	W18x1,25x13	DIN 5480	PA01	A18x15	DIN 5482	PB03	A75x69	DIN 5482	PB26
21th 16/32	Diametral Pitch	PD10	W20x1,25x14	DIN 5480	PA02	A20x17	DIN 5482	PB04	A78x72	DIN 5482	PB27
23th 16/32	Diametral Pitch	PD11	W25x1,25x18	DIN 5480	PA03	A22x19	DIN 5482	PB05	A80x74	DIN 5482	PB28
27th 16/32	Diametral Pitch	PD12	W28x1,25x21	DIN 5480	PA04	A25x22	DIN 5482	PB06	A82x76	DIN 5482	PB29
40th 16/32	Diametral Pitch	PD13	W32x1,25x24	DIN 5480	PA05	A28x25	DIN 5482	PB07	A85x79	DIN 5482	PB30
20th 24/48	Diametral Pitch	PD14	W38x1,25x29	DIN 5480	PA06	A30x27	DIN 5482	PB08	A88x82	DIN 5482	PB31
21th 24/48	Diametral Pitch	PD15	W30x2x14	DIN 5480	PA07	A32x28	DIN 5482	PB09	8x10	DIN 5481	PC01
23th 24/48	Diametral Pitch	PD16	W32x2x14	DIN 5480	PA08	A35x31	DIN 5482	PB10	10x12	DIN 5481	PC02
25th 24/48	Diametral Pitch	PD17	W35x2x16	DIN 5480	PA09	A38x34	DIN 5482	PB11	12x14	DIN 5481	PC03
26th 24/48	Diametral Pitch	PD18	W37x2x17	DIN 5480	PA10	A40x36	DIN 5482	PB12	15x17	DIN 5481	PC04
27th 12/48	Diametral Pitch	PD19	W38x2x18	DIN 5480	PA11	A42x38	DIN 5482	PB13	17x20	DIN 5481	PC05
28th 24/48	Diametral Pitch	PD20	W40x2x18	DIN 5480	PA12	A45x41	DIN 5482	PB14	21x24	DIN 5481	PC06
29th 24/48	Diametral Pitch	PD21	W42x2x18	DIN 5480	PA13	A48x44	DIN 5482	PB15	26x30	DIN 5481	PC07
32th 24/48	Diametral Pitch	PD22	W45x2x21	DIN 5480	PA14	A50x45	DIN 5482	PB16	30x34	DIN 5481	PC08
21th 32/64	Diametral Pitch	PD23	W50x2x24	DIN 5480	PA15	A52x47	DIN 5482	PB17	60x65	DIN 5481	PC09

Comparative table

MP Filtri		OMT
New code	Old code	
SGEA01FS05M	SGEA00B01018	ND48P05M
SGEA01FS05C	SGEA00B02018	ND48P05GT
SGEA01FS100	SGEA00B07018	ND48PU1P
SGEA01FS1C0	SGEA00B03014	ND48P1C
SGEA01FS1M0	SGEA00B06016	ND48P1M
SGEA01FSZBR	SGEA00B08014	ND48PZB
SGEA21FS100	SGEA20B07018	ND65PU1P
SGEA21FS1C0	SGEA20B03024	ND65P1C
SGEA21FS1M0	SGEA20B06024	ND65P1M
SGEA21FSZBR	SGEA20B08024	ND65PZB
SGEA21FS200	SGEA20B100242A	ND65P2
SGEA21FSZFR	SGEA20B13024	ND65PZF
SGEA21FS25T	SGEA20B16041	ND65Q3U
SGEA31FS100	SGEA30B07022	ND86PU1P
SGEA31FS1C0	/	ND86P1C
SGEA31FS1M0	SGEA30B06021	ND86P1M
SGEA31FSZBR	/	/
SGEA31FS200	SGEA30B100222A	ND86P2
SGEA31FSZFR	SGEA30B13020	ND86PZF
SGEA31FS300	SGEA30B16038	ND86P3U
SGEA31FS350	SGEA30B180382B	/
SGEA51FSZGR	SGEA50B17034	/
SGEA51FS200	/	/
SGEA51FSZFR	SGEA50B13032	ND108PZF
SGEA51FS300	SGEA50B16032	ND108P3U
SGEA51FS350	SGEA50B180342B	ND108Q35
SGEA51FS400	SGEA50B210462C	/

NB. The chart above is a guideline only.
 Not all half couplings are interchangeable.
 For further information contact the technical sales department.

