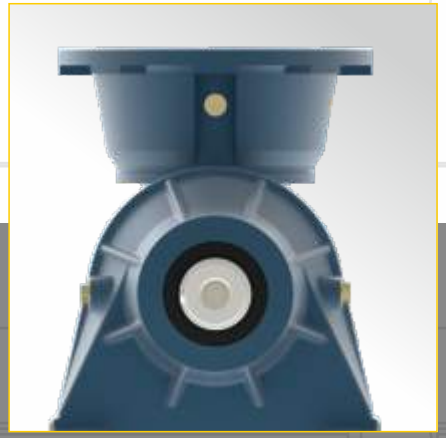
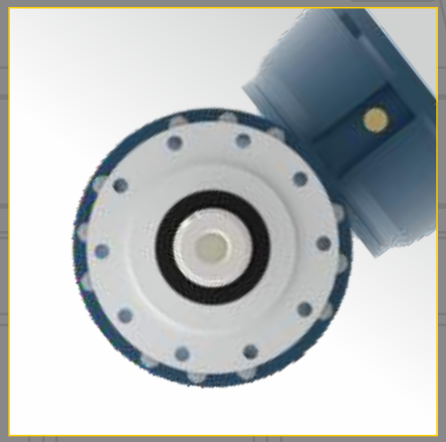
SG SERIES PLANETARY GEARBOX





CYCLO

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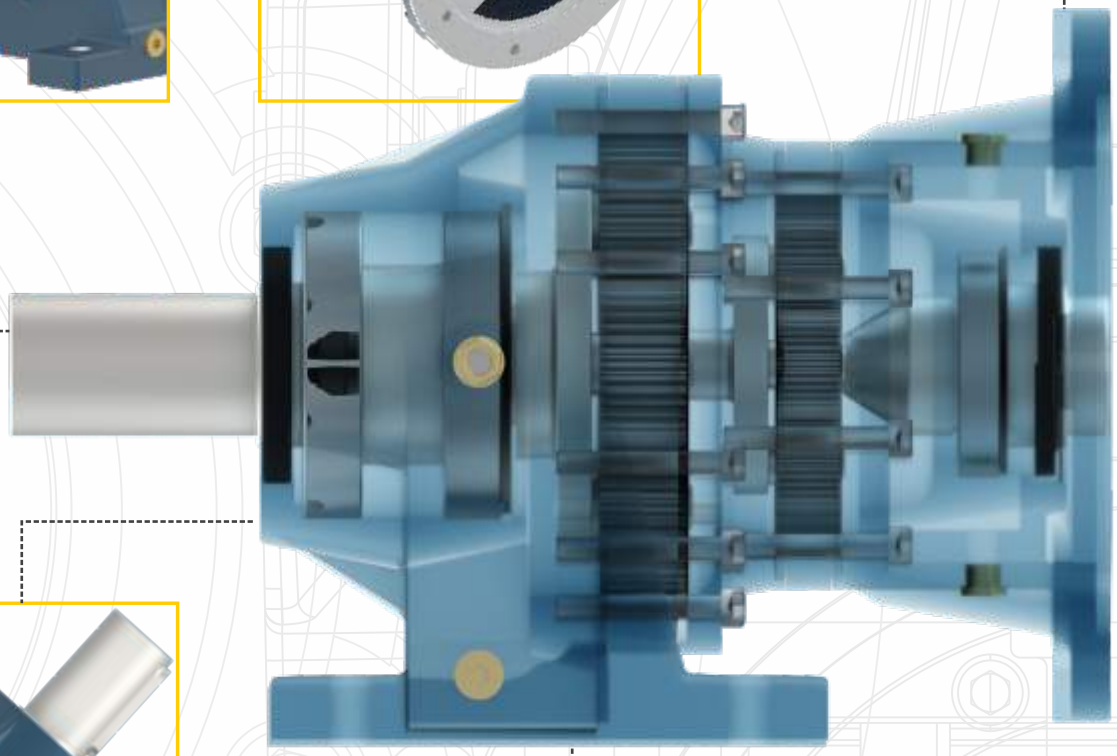
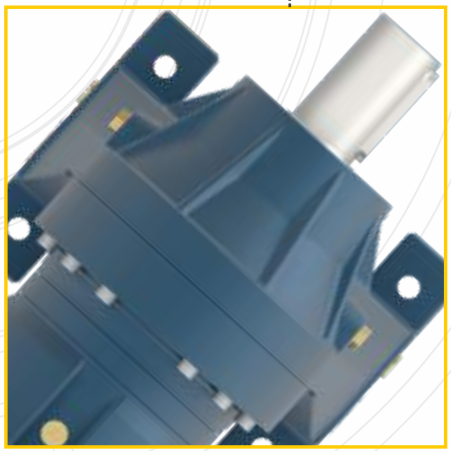




18 size:

- Output torque up to 650000 Nm
- Output power up to 450 kw
- Ratios from 3.5:1 to 3000:1

Modular design :

- In-line with 1 to 4 reductions
- Right angle (spiral bevel gear set into first stage) with 2 to 4 reduction.
- Foot mounted with solid output shaft (CFT)
- Flange mounted with solid output shaft (CFL)
- Reinforced output shaft for Stirrers and Mixture (CFA)
- IEC flanges with hollow input shafts

Unique Design Features:

- High ratio of transmissible torque to overall dimensions
- High radial and axial load capacity of output shafts tapered roller bearings fitted on the flange version
- High efficiency
- Inner parts are connected with spline instead of key
- Planetary gears of reduction stages mounted to floating holders to ensure maximum load distribution among planetary gears
- Spheroidal Cast Iron housing

Reference torque M_{2REF} [Nm]
This is indicative output torque for the size and equivalent to nominal torque M_{n2} for a life factor $n_2 X h = 10000$.

Rated output torque M_{n2} [Nm]
Torque output transmissible under uniform loading and referred to the input speed n_1 and the corresponding output speed n_2, The output torque can be calculated with the following formula

$$M_{n2} = \frac{P_{n1}\ [kW] \cdot 9550}{n_2} \cdot \eta$$

Maximum torque M_{2max} [Nm]
This is output torque that the gearbox can withstand under static loading condition. This is meant as momentary peak load or starting-up torque in load condition.

Torque demand M_{r2} [Nm]
Torque calculated based on application requirements. It must be < M_{n2} of the chosen PLANETARY unit.

Input power P_{n1} [kW]
This is the power value of the motor applied to the input shaft and corresponding to a certain input speed n_1, a service factor $f_s = 1$ and a duty service S_1. It is even possible to calculate the motor size necessary by using the formula:

$$P_{n1}\ [kW] = \frac{M_{r2} \cdot n_2}{9550 \cdot \eta}$$

Since the value calculated in this way could not really correspond to an input power actually available in the IEC standardized motors, it will be necessary to choose, among the input powers available, the one which is immediately higher, checking this in the Rotomotive catalogue of the Motors.

Thermal power Pt [kW]
This is related to thermal capacity of planetary unit. The thermal power value is listed in rating charts and it represent the mechanical power transferred continuously at input speed n_1, at an ambient temperature 20°C without the lubricant exceeding the temperature of 85 ~ 90°C and body (housing) temperature of 75 ~ 80°C, without use of additional cooling system

Check the thermal power is equal or greater than the mechanical power required by the application as per equation give below.

$$P_{n1} \leq P_t \ X \ f_t \ X \ f_v$$

Where ,
f_t is thermal factor, f_v is speed factor
If above condition is not satisfied then provide an additional cooling system or choose higher size planetary unit.

When the short operating duty and rest time is long enough to cool the unit, the thermal rating is hardly affect and it may be omitted from calculation.

For ambient other than 20°C, intermittent duty and input speed n_1 other than reference speed listed in rating charts, P_t to be adjusted with the use of above equation.

The intermittent factor is a ratio and expressed as percentage,

$$I = \frac{t_f}{(t_f + t_r)} \ X100$$

t_f = Operating time under load
t_r = Time at rest

If the gear unit conventional configuration not available which satisfy the thermal capacity as per given condition then it is recommended to use external cooling means (fan cooling)

n_1	f_v
750	1.5
950	1.2
1500	1.0
2000	0.7

f_t					
t_a max (°C)	Continuous duty	Intermittent duty			
		Cyclic duration factor %			
		80	60	40	20
10	1.2	1.3	1.6	1.8	2
20	1.0	1.1	1.3	1.5	1.7
30	0.9	1.0	1.2	1.3	1.5
40	0.7	0.8	0.9	1	1.2
50	0.5	0.6	0.7	0.8	0.9

ta = Ambient temperature

Dynamic efficiency η [%]]

An inherent factor in the selection gear boxes is the efficiency , defined as the ratio between the mechanical power coming out from the output shaft, and the power in the input shaft:

The efficiency in gearboxes is mainly determined by the gearing and bearing friction. The efficiency of PLANETARY varies with the nr of stages:

1 stage : 97%
2 stage : 94%
3 stage : 91%
4 stage : 88%

Gear ratio i

It is the relationship of the input speed n_1 and the output speed n_2

$$i = \frac{n_2}{n_1}$$

Input speed n_1 [rpm]

It is the speed the PLANETARY unit is driven at.

Output speed n_2 [rpm]

It is the rotation speed of the output shaft.

$$n_2 = \frac{n_1}{i}$$

Service factor f_s

Service factor f_s is the ratio of planetary unit rated power to the power of the motor connected to planetary unit.

$$F_s = \frac{P_{n1}}{P_1}$$

Service factor requested by application, denoted as f_s', is a numeric value describing the severity of application. This factor takes into account, with unavoidable approximation, below factors,

- The daily working hours h/d.
- The load classification and then the moment of inertia of the driven masses.
- The number of starts per hour s/h.

The below table gives the indication of service factor value according to the application and operation type.

The presence of brake motors, for which it is necessary to multiply for 1.12 the service factor derived for application.

It must be checked $f_s \geq f_s'$

Life factor F_{h1}, F_{h2}

Factor resulting by multiplication of input speed n_1 or output speed n_2 by actual operating working hours (without considering break hours)

$$F_{h1} = n_1 \times h$$
$$F_{h2} = n_2 \times h$$

Service factor f_s'

Type of load	Number of starts/hour z	Total operating hours				
		≦5000	10000	15000	20000	50000
		Daily operating hours				
		h < 4	4 < h < 8	8 < h < 12	12 < h < 16	16 < h < 24
Uniform load	Z < 10	0.90	1.00	1.15	1.30	1.60
	10 < Z < 30	0.95	1.15	1.30	1.50	1.80
	30 < Z < 100	1.00	1.25	1.45	1.60	2.00
Moderate shock load	Z < 10	1.00	1.25	1.45	1.60	2.00
	10 < Z < 30	1.10	1.40	1.60	1.80	2.20
	30 < Z < 100	1.20	1.50	1.70	2.00	2.40
Heavy shock load	Z < 10	1.20	1.50	1.70	2.00	2.40
	10 < Z < 30	1.30	1.60	1.80	2.10	2.60
	30 < Z < 100	1.40	1.75	2.00	2.30	2.80

Overhang loads

Based on application data, calculate overhang load applied to input/output shaft of gearbox with following formula

$$f_{r1-2} = \frac{2000 \cdot M_{r1-2} \cdot K_r}{d}$$

Where,

F_{r1-2} = Overhang load in N

1 for input shaft, 2 for output shaft

M_{r1-2} = Torque at the shaft in Nm

D = PCD (mm) of transmission element (sprocket, gear, pulley, etc.)

K_r = 1 for chain transmission

K_r = 1.25 for gear transmission

K_r = 1.5 to 2.5 for V-belt transmission

Radial Load at point 'X'

$$f_{rx} = \frac{f_r \cdot E}{2 \cdot X}$$

Below condition must be satisfied when load position 'X' on Shaft

$$f_{r1-2} \leq f_{rx} \cdot f_{h1-2}$$

Where,

f_h is radial & axial load corrective factor depending on required life factor.

Thrust loads

Check below condition when thrust load exerted on output shaft

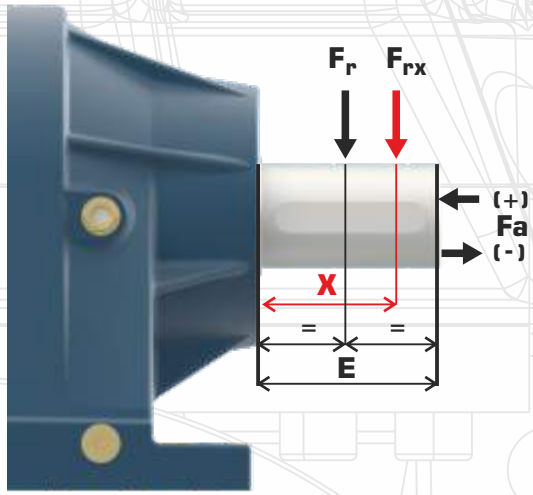
$$\pm f_{ca} \leq \pm f_{a2} \cdot f_{h2}$$

GBX Size	F_{a2} (+) [N]		F_{a2} (-) [N]	
	CFT	CFL	CFT	CFL
SG00	20000	40000	15000	40000
SG01	40000	40000	40000	40000
SG03	55000	55000	44000	44000
SG05	55000	55000	44000	44000
SG06	120000	120000	60000	60000
SG07	160000	160000	80000	80000
SG09	160000	160000	80000	80000
SG10	170000	170000	100000	100000
SG11	200000	200000	140000	140000
SG13	250000	250000	160000	160000
SG14	280000	280000	210000	210000
SG15	280000	280000	210000	210000
SG16	360000	360000	300000	300000
SG17	360000	360000	300000	300000
SG18	500000	500000	450000	450000
SG19	500000	500000	450000	450000
SG21	180000	180000	240000	240000

Where,

f_{c2} = Calculated thrust load at gearbox output shaft [N]

f_{a2} = Rated thrust load at gearbox output shaft [N]



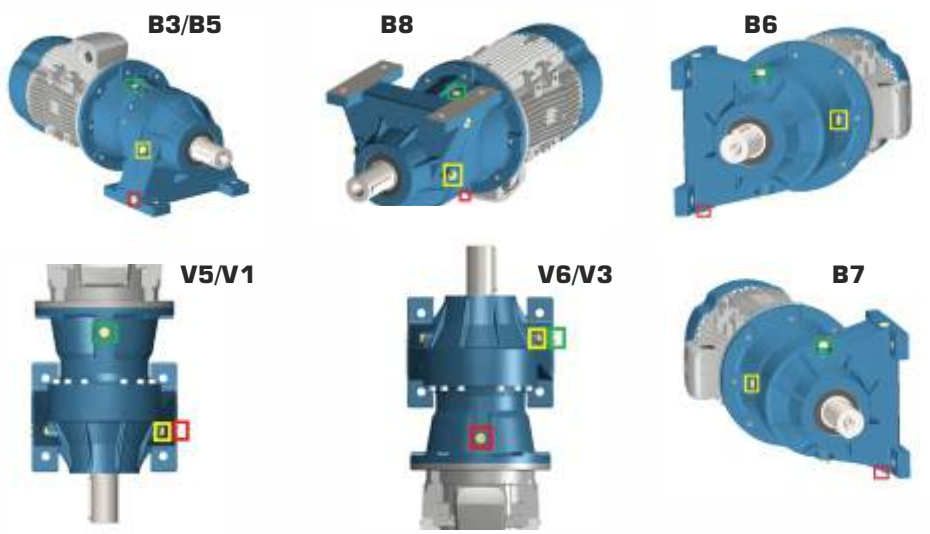
CFT / CFL		Gearbox life factor, $F_{h2} = n_2 X h$					
		10000	25000	50000	100000	500000	10000000
F_{h2}	SG00-SG21	1	0.76	0.61	0.5	0.31	0.25

Model	Reference Torque (Nm)	Peak Torque (Nm)
SG00	1000	1200
SG01	1750	2100
SG03	2500	3500
SG05	5000	7000
SG06	8500	12000
SG07	12500	18000
SG09	18000	27000
SG10	25000	36000

Model	Reference Torque (Nm)	Peak Torque (Nm)
SG11	40000	54000
SG13	55000	66000
SG14	80000	100000
SG15	105000	135000
SG16	135000	162000
SG17	170000	216000
SG18	250000	300000
SG19	350000	420000
SG21	500000	650000

MOUNTING POSITION & OIL QUANTITY

Inline Input



Right Angle (Bevel) Input


breather plug


level plug


filler plug

Oil Quantity (Liters)				
GBX Size	Stages	Mounting Position		
		B3 / B8 B6 / B7	V1 / V5	V3 / V6
SG00	L1	0.6	1.0	0.9
	L2	0.9	1.3	1.2
	L3	1.2	1.6	1.5
	L4	1.5	1.9	1.8
SG01	L1	0.8	1.2	1.1
	L2	1.1	1.5	1.4
	L3	1.4	1.8	1.7
	L4	1.7	2.1	2.0
SG03	L1	1.3	2.3	2.0
	L2	1.6	2.6	2.3
	L3	1.9	2.9	2.6
	L4	2.2	3.2	2.9
SG05	L1	1.6	2.6	2.4
	L2	2.1	3.1	2.9
	L3	2.4	3.4	3.2
	L4	2.7	3.7	3.5
SG06	L1	2.5	3.5	3.2
	L2	3.3	4.3	4.0
	L3	3.6	4.6	4.3
	L4	3.9	4.9	4.6
SG07	L1	3.5	5.0	4.5
	L2	4.5	6.0	5.5
	L3	5.0	6.5	6.0
	L4	5.3	6.8	6.3
SG09	L1	4.0	5.5	5.0
	L2	5.0	6.5	6.0
	L3	5.5	7.0	6.5
	L4	5.8	7.3	6.8
SG10	L1	5.0	6.5	6.0
	L2	6.3	7.8	7.3
	L3	7.1	8.6	8.1
	L4	7.4	8.9	8.4
SG11	L1	7.0	12	10
	L2	9.0	14	12
	L3	10	15	13
	L4	11	16	14
SG13	L1	9.0	14	12
	L2	12	17	15
	L3	13	18	16
	L4	13	18	16
SG14	L2	17	25	21
	L3	19	27	23
	L4	20	28	24
SG15	L1	15	23	29
	L2	19	27	23
	L3	21	29	25
	L4	22	30	26
SG16	L2	22	30	26
	L3	24	32	28
	L4	25	33	29
SG17	L2	26	41	36
	L3	29	44	39
	L4	30	45	40
SG18	L2	35	50	45
	L3	40	55	50
	L4	43	58	53
SG19	L2	45	65	55
	L3	50	70	60
	L4	53	73	63
SG21	L3	56	76	66
	L4	60	80	70

- Unless otherwise specified, gearboxes are supplied without oil.
- Before starting up the gear unit, it must be filled with lubricant to the level corresponding to its specified mounting position. Mount breather plug on top side as per chart.
- All units are supplied with plugs for loading, discharging and checking the level of the oil.
- Recommended oil ISO VG320 grade Synthetic oil. Preferred make Kluber, Mobil, Shell
- Do not mix synthetic and mineral oils. Do not mix two different brand oils.

PERFORMANCE TABLE

SG00L

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT	F_{r2} [N] CFL
L1	3.48	470	20	7.5	1610	4970
	4.26	490	18.8	7.5	1720	5280
	5.77	470	13.3	7.5	1910	5790
	7.2	410	9.2	7.5	2050	6180
L2	12.1	680	9.4	7.5	2440	7230
	14.8	720	8.1	7.5	2610	7680
	18.2	750	6.9	7.5	2790	8160
	20.1	640	5.3	7.5	2890	8410
	24.6	800	5.5	7.5	3090	8940
	30.7	840	4.6	7.5	3330	9550
	33.3	650	3.3	7.5	3420	9790
	41.5	650	2.6	7.5	3680	10500
	51.9	650	2.1	7.5	3970	11200
L3	51.6	850	2.8	7.5	3960	11200
	63.2	850	2.3	7.5	4240	11900
	69.9	650	1.6	7.5	4380	12200
	77.5	850	1.9	7.5	4530	12600
	85.6	850	1.7	7.5	4680	13000
	105	860	1.4	7.5	5010	13800
	116	650	0.97	7.5	5180	14200
	131	860	1.1	7.5	5400	14800
	142	860	1	7.5	5540	15100
	177	880	0.86	7.5	5970	16200
	192	650	0.58	7.5	6130	16600
	221	910	0.71	7.5	6430	17300
	240	650	0.47	7.5	6600	17700
	299	650	0.37	7.5	7110	18900
L4	330	970	0.52	6	7350	19500
	403	680	0.3	6	7850	20700
	447	1020	0.4	6	8130	21300
	494	1030	0.37	6	8400	22000
	558	1060	0.34	6	8750	22800
	616	1070	0.31	6	9050	23500
	755	1110	0.26	6	9680	25000
	819	1130	0.24	6	9940	25600
	942	1160	0.22	6	10400	26700
	1022	1170	0.2	6	10700	27300
	1108	810	0.13	6	11000	28000
	1275	1220	0.17	6	11500	29200
	1383	850	0.11	6	11800	29900
	1591	1250	0.14	6	12000	31000
	1725	860	0.09	6	12000	31000
	2153	860	0.07	6	12000	31000

SG01L

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
L1	3.48	840	30	7.5	4970
	4.26	880	30	7.5	5280
	5.77	930	26	7.5	5790
	7.2	750	17	7.5	6180
L2	12.1	1220	16.8	7.5	7230
	14.8	1280	14.4	7.5	7680
	18.2	1360	12.5	7.5	8160
	20.1	1260	10.5	7.5	8410
	24.6	1490	10.1	7.5	8940
	30.7	1580	8.6	7.5	9550
	33.3	1300	6.5	7.5	9790
	41.5	1300	5.2	7.5	10500
	51.9	1300	4.2	7.5	11200
L3	51.6	1630	5.4	7.5	11200
	63.2	1650	4.5	7.5	11900
	69.9	1300	3.2	7.5	12200
	77.5	1670	3.7	7.5	12600
	85.6	1680	3.4	7.5	13000
	105	1700	2.8	7.5	13800
	116	1300	1.9	7.5	14200
	131	1720	2.3	7.5	14800
	142	1720	2.1	7.5	15100
	177	1770	1.7	7.5	16200
	192	1300	1.2	7.5	16600
	221	1790	1.4	7.5	17300
	240	1300	0.93	7.5	17700
	299	1300	0.75	7.5	18900
L4	330	1920	1	6	19500
	403	1370	0.6	6	20700
	447	2030	0.81	6	21300
	494	2070	0.74	6	22000
	558	2110	0.67	6	22800
	616	2150	0.62	6	23500
	755	2220	0.52	6	25000
	819	2240	0.49	6	25600
	942	2290	0.43	6	26700
	1022	2320	0.4	6	27300
	1108	1630	0.26	6	28000
	1275	2400	0.33	6	29200
	1383	1700	0.22	6	29900
	1591	2000	0.22	6	31000
	1725	1720	0.18	6	31000
	2153	1720	0.14	6	31000

SG03L

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
L1	3.6	1380	40	11	10300
	4.25	1430	40	11	10800
	5.33	1490	40	11	11500
	6.2	1400	36	11	12100
	7.5	1220	26	11	12800
	9.67	750	12.6	11	13800
L2	12.5	1640	20	9	14900
	15.3	1710	18.6	9	15800
	18.1	2020	18.6	9	16600
	20.8	1820	14.6	9	17300
	22.7	2100	15.4	9	17800
	24.5	2150	14.6	9	18200
	26.4	1820	11.5	9	18600
	30.8	2140	11.6	9	19500
	35.8	1820	8.5	9	20400
	38.4	2150	9.3	9	20900
	44.6	1820	6.8	9	21800
L3	53.4	2170	7	7.5	23000
	63.1	2510	6.8	7.5	24200
	72.3	2230	5.3	7.5	25200
	77.2	2520	5.6	7.5	25700
	90.2	2250	4.3	7.5	26900
	105	2580	4.2	7.5	28200
	113	1820	2.8	7.5	28800
	124	1820	2.5	7.5	29700
	141	2610	3.2	7.5	30800
	152	1820	2.1	7.5	31500
	164	2200	2.3	7.5	32200
	178	2210	2.1	7.5	33000
	190	1830	1.7	7.5	33700
	220	2250	1.8	7.5	35200
	258	1840	1.2	7.5	36900
	276	2230	1.4	7.5	37700
	321	1860	1	7.5	39400
	389	1690	0.75	7.5	41800
L4	413	2360	1	6	42500
	446	2810	1.1	6	43500
	492	2690	0.97	6	44800
	556	2810	0.9	6	46500
	649	2320	0.63	6	48700
	718	2150		6	50200
	816	2720	0.53	6	52200
	896	2230	0.59	6	53700
	1018	2740	0.44	6	55800
	1098	2310	0.48	6	57000
	1278	2790	0.37	6	59700
	1370	2400	0.39	6	60900
	1586	2250	0.31	6	63700
	1854	2440	0.25	6	64000
	1991	2850	0.23	6	64000
	2243	2000	0.25	6	64000
	2799	2000	0.16	6	

PERFORMANCE TABLE

SG05L

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
L1	3.6	2370	60	13	5010
	4.25	2450	60	13	5290
	5.33	2560	60	13	5710
	6.2	2650	60	13	6000
	7.5	2270	49	13	6400
L2	12.5	2930	30	9	7590
	15.3	3060	30	9	8120
	18.1	3620	30	9	8580
	20.8	3250	26	9	8980
	22.7	3940	29	9	9260
	24.5	3830	26	9	9490
	26.4	3530	22	9	9740
	30.8	4280	23	9	10200
	35.8	3560	16.6	9	10800
	38.4	4300	18.7	9	11000
	44.6	3560	13.3	9	11600
L3	53.4	4000	12.9	7.5	12300
	63.1	4720	12.9	7.5	13000
	72.3	4160	9.9	7.5	13600
	77.2	4820	10.7	7.5	13900
	90.2	4260	8.1	7.5	14700
	105	5030	8.3	7.5	15400
	113	3590	5.5	7.5	15800
	124	3590	5	7.5	16300
	141	5180	6.3	7.5	17000
	152	3600	4.1	7.5	17500
	164	4410	4.6	7.5	17900
	178	4420	4.3	7.5	18400
	190	3600	3.3	7.5	18800
	220	4750	3.7	7.5	19700
	258	3600	2.4	7.5	20800
	276	4460	2.8	7.5	21300
	321	3640	1.9	7.5	22400
	389	3170	1.4	7.5	23900
L4	413	4720	2	6	24300
	446	5490	2.2	6	25000
	492	5340	1.9	6	25800
	556	5500	1.8	6	26900
	649	4510	1.2	6	28300
	718	4130	1	6	29300
	816	5410	1.2	6	30500
	896	4290	0.85	6	31500
	1018	5450	0.95	6	32900
	1098	4440	0.72	6	33700
	1278	5500	0.76	6	35500
	1370	4620	0.6	6	36000
	1586	4750	0.53	6	36000
	1854	4690	0.45	6	36000
	1991	5600	0.5	6	36000
	2243	3800	0.3	6	36000
	2799	3800	0.24	6	36000

SG06L

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
L1	3.6	3760	75	18	16800
	4.25	3890	75	18	17600
	5.33	4060	75	18	18900
	6.2	4200	75	18	19700
	7.5	4090	75	18	20900
L2	13	4820	40	13	24600
	15.3	4990	40	13	25900
	18.1	5890	40	13	27200
	22.7	6140	40	13	29100
	26.4	6370	40	13	30500
	28.4	6700	39	13	31200
	33.1	6870	35	13	32600
	38.4	6470	28	13	34100
	46.5	6470	23	13	36100
	56.3	5210	15.5	13	38300
L3	53.2	7100	20	7.5	37600
	65.2	7480	19.7	7.5	40000
	77	8350	18.7	7.5	42000
	81.9	6890	14.5	7.5	42800
	88.3	8550	16.7	7.5	43800
	104	8900	14.7	7.5	46000
	112	7410	11.3	7.5	47100
	121	7790	11.1	7.5	48200
	141	7900	9.6	7.5	50400
	152	7590	8.6	7.5	51600
	190	6510	5.9	7.5	55100
	205	8110	6.8	7.5	56400
	222	6520	5.1	7.5	57700
	238	8180	5.9	7.5	59000
	268	5500	3.5	7.5	61100
	288	5500	3.3	7.5	62400
	325	5540	2.9	7.5	64700
	405	5670	2.4	7.5	69200
L4	391	6840	3.1	6	68400
	444	9850	3.9	6	71100
	509	9450	3.3	6	74100
	589	9320	2.8	6	77400
	636	9450	2.6	6	79200
	700	9470	2.4	6	81500
	809	7690	1.7	6	85100
	877	7710	1.6	6	87200
	1015	9460	1.7	6	91100
	1095	7790	1.3	6	93200
	1279	8400	1.2	6	97700
	1475	10100	1.2	6	101000
	1597	8630	0.96	6	101000
	1714	10100	0.93	6	101000
	1843	8630	0.74	6	101000
	2074	7000	0.6	6	101000
	2337	7000	0.53	6	101000
	2916	7000	0.43	6	101000

SG07L

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
L1	3.43	5110	115	22	17800
	4.09	5260	115	22	18700
	5.25	5540	115	22	20200
	6.23	5750	115	22	21300
L2	12.3	7510	60	18	26100
	14.7	7730	60	18	27500
	17.4	8120	60	18	28900
	21.8	8690	60	18	31000
	25.4	9090	60	18	32400
	28	9150	55	18	33400
	30.7	9590	52	18	34300
	32.6	9410	48	18	34900
	38.6	8310	36	18	36800
	46.7	8360	30	18	38900
L3	51.3	10700	30	11	40000
	60.5	11100	30	11	42100
	74.1	11600	27	11	44700
	80.6	10200	22	11	45800
	93	12200	23	11	47900
	100	12400	21	11	49000
	113	10500	16	11	50800
	126	13000	17.8	11	52400
	139	10700	13.3	11	54000
	146	13400	15.8	11	54800
	162	10800	11.6	11	56500
	177	12300	12	11	58000
	202	11000	9.4	11	60400
	221	12700	9.9	11	62000
	234	8700	6.3	11	63500
	284	11300	6.8	11	66900
	336	8840	4.5	11	70400
L4	349	14900	7.6	7.5	71200
	406	11900	5.2	7.5	74400
	450	12200	4.6	7.5	77500
	509	14000	4.9	7.5	79700
	579	14900	4.6	7.5	82800
	654	12900	3.5	7.5	85900
	722	15000	3.7	7.5	88500
	801	13300	3	7.5	91300
	906	15200	3	7.5	94700
	999	13800	2.5	7.5	97600
	1084	13800	2	7.5	101900
	1162	13800	1.9	7.5	104900
	1274	12300	1.7	7.5	104900
	1352	14200	1.6	7.5	104900
	1591	15000	1.7	7.5	10900
	1687	13800	1.6	7.5	10900
	2003	12300	1.2	7.5	10900
	2041	14300	1.2	7.5	10900
	2423	11000	0.81	7.5	10900

PERFORMANCE TABLE

SG09L

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
L1	3.43	7010	150	25	18100
	4.09	7220	150	25	19000
	5.25	7600	150	25	20500
	6.23	7900	150	25	21600
L2	12.3	7890	60	18	26500
	14.7	9410	60	18	28000
	17.4	9730	60	18	29400
	21.8	10100	60	18	31500
	25.4	10500	60	18	32900
	28	12500	60	18	33900
	32.6	13000	60	18	35500
	38.6	12500	54	18	37400
	46.7	12500	45	18	39600
L3	51.3	13400	30	11	40700
	60.5	14100	30	11	42700
	74.1	15000	30	11	45400
	80.6	14800	30	11	46600
	93	15100	28	11	48600
	100	16500	28	11	49700
	113	15500	24	11	51600
	126	16400	22	11	53200
	139	16000	19.9	11	54800
	162	16300	17.3	11	57400
	183	14300	13.5	11	59500
	202	16500	14.1	11	61300
	223	13000	10	11	63200
	234	13000	9.4	11	64600
	284	15700	9.6	11	67900
	336	13200	6.8	11	71500
L4	349	21300	10.8	7.5	72300
	406	17800	7.8	7.5	75600
	450	18300	7	7.5	78800
	509	14300	5	7.5	81000
	579	21300	6.5	7.5	84100
	654	18100	4.9	7.5	87300
	722	21300	5.2	7.5	89900
	801	18200	4	7.5	92800
	906	17900	3.5	7.5	96300
	999	18200	3.2	7.5	103400
	1149	16200	2.5	7.5	106900
	1286	16500	2.3	7.5	109200
	1352	18200	2.2	7.5	110000
	1605	17000	1.9	7.5	110000
	1723	17000	1.8	7.5	110000
	2003	17000	1.5	7.5	110000
	2041	17000	1.5	7.5	110000
	2423	17000	1.2	7.5	110000

SG10L

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
L1	4.09	7330	175	35	22600
	5.25	7710	175	35	24300
	6.23	8020	175	35	25600
L2	14.7	10800	75	22	33100
	17.4	11300	75	22	34800
	21.8	12100	75	22	37300
	25.4	12700	75	22	39000
	28	12800	75	22	40200
	30.7	13400	73	22	41300
	32.6	13300	68	22	42000
	38.6	13600	59	22	44300
	46.7	14200	51	22	46900
L3	53	15800	40	18	48700
	62.6	16600	40	18	51200
	73.9	17500	40	18	53800
	80.3	17500	37	18	55100
	91.3	18600	35	18	57300
	101	18700	32	18	59000
	110	19700	31	18	60700
	119	19700	28	18	62000
	130	20700	27	18	63800
	142	20700	25	18	65400
	164	22200	23	18	68300
	174	18300	17.7	18	69900
	190	20700	17.0	18	65400
	202	22000	18.8	18	72700
	230	21200	15.8	18	75600
	244	18400	12.7	18	77400
	295	23300	13.6	18	81500
	350	19000	9.3	18	85800
L4	392	19400	8.8	11	88700
	451	29800	11.7	11	92500
	507	25500	8.9	11	95800
	556	31600	10.1	11	98500
	637	26500	7.4	11	102600
	726	27100	6.6	11	106700
	818	27600	6	11	110600
	864	27100	6.5	11	106700
	939	33200	6.3	11	115300
	973	33200	5.5	11	115300
	1021	28700	5	11	118200
	1164	29300	4.5	11	123000
	1259	27600	3.9	11	125900
	1408	27810	3.2	11	131000
	1672	26000	2.8	11	133000
	1758	26000	2.6	11	133000
	2022	26000	2.3	11	133000
	2523	26000	1.8	11	133000

SG11L

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
L1	4.09	10600	200	35	26700
	5.25	11700	200	35	28700
	6.23	11600	200	35	30300
L2	14	15300	115	26	38600
	16.7	16100	115	26	40700
	18	16900	115	26	41600
	21.5	17400	115	26	43900
	25.5	18300	115	26	46200
	27.6	19200	115	26	47300
	32.7	20200	103	26	49800
	38.8	19700	85	26	52400
L3	50.5	22400	60	18	56700
	60.2	23700	60	18	59800
	71.1	24900	60	18	62800
	77.3	25500	57	18	64400
	89.3	26600	51	18	67300
	104	27800	46	18	70400
	115	28700	43	18	72500
	126	29500	40	18	74500
	133	30000	39	18	75800
	147	31800	37	18	78100
	161	31800	34	18	80300
	171	32600	33	18	81700
	191	32200	29	18	84500
	203	33400	28	18	86000
	245	34300	24	18	91100
	291	27000	16	18	95900
L4	348	39800	20	11	101100
	410	41500	18	11	106300
	512	44000	15.2	11	113600
	568	43000	13.4	11	117200
	627	39800	11.3	11	120700
	724	46300	11.4	11	126000
	825	44600	9.6	11	131000
	904	46900	9.2	11	134700
	959	44600	7.4	11	131000
	986	42500	7.7	11	138300
	1058	43000	7.2	11	141200
	1170	42500	5.8	11	138300
	1230	43900	6.3	11	147800
	1377	39800	4.6	11	120700
	1415	42800	5.4	11	154100
	1488	43000	4.6	11	141200
	1680	34000	3.6	11	157000
	1766	43000	4.3	11	157000
	2096	34000	2.9	11	157000

PERFORMANCE TABLE

SG13L

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
L2	14.2	22600	150	30	47900
	16.9	23500	150	30	50500
	18.5	24100	150	30	51800
	21.8	25500	150	30	54400
	25.8	26700	150	30	57300
	28.4	27300	150	30	58900
	33.6	28800	143	30	62000
	40.5	29500	122	30	65600
L3	51.1	32700	60	18	70300
	61	34500	60	18	74100
	72	36300	60	18	77900
	78.3	37300	60	18	79900
	92.4	39300	60	18	84000
	110	41200	60	18	88400
	120	42100	60	18	90900
	135	44000	56	18	94100
	143	44400	53	18	95700
	151	45000	51	18	97300
	163	46000	49	18	99600
	176	45000	44	18	101800
	182	39000	37	18	102900
	194	47600	42	18	104800
	209	45000	37	18	107200
	252	45000	31	18	113500
	304	39100	22	18	120000
L4	352	52500	26	11	125400
	394	55000	25	11	129700
	452	54000	21	11	135200
	514	48600	16.8	11	140500
	564	54800	17.2	11	144500
	633	52000	14.6	11	149600
	695	51000	13	11	153800
	790	52200	11.7	11	159800
	889	53100	10.6	11	165600
	1014	54300	9.5	11	172300
	1117	52500	8.3	11	177300
	1266	56300	7.9	11	184100
	1394	52700	6.7	11	189500
	1502	58000	6.8	11	192000
	1817	58000	5.7	11	192000
	2187	49000	4	11	192000

SG14L

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
L2	17.4	33100	175	40	54300
	22.3	37400	175	40	58500
	26.5	37300	175	40	61600
	28	38200	175	40	62700
	33.2	40200	175	40	66000
	38.6	35300	152	40	69000
L3	62.6	48600	75	25	79800
	73.9	51100	75	25	83800
	92.7	54700	75	25	89700
	108	57200	75	25	93900
	138	64800	75	25	101200
	164	64200	67	25	106500
	174	63000	62	25	108300
	206	63800	53	25	114000
	240	52000	37	25	119300
L4	314	77800	40	15	129400
	388	78500	36	15	137900
	458	79100	31	15	144900
	495	79300	28	15	148300
	554	79700	26	15	153400
	588	79900	24	15	156200
	668	80500	21	15	162300
	738	80900	19.5	15	167200
	858	81500	16.9	15	174900
	926	74000	14.2	15	179000
	1038	82400	14.1	15	185200
	1099	75800	12.2	15	188400
	1277	77400	10.8	15	197100
	1485	66700	8	15	206000
	1796	66800	6.6	15	206000

SG15L

Stages	i	Mn2 [Nm]	P1 [kW]	Pt [kW]	F_{r2} [N] CFT / CFL
L2	17.4	41400	200	45	54300
	22.3	46800	200	45	58500
	26.5	46600	200	45	61600
	28	47800	200	45	62700
	33.2	50300	200	45	66000
	38.6	44100	190	45	69000
L3	59.6	59900	115	30	78600
	71.1	63100	115	30	82900
	91.3	68000	115	30	89300
	108	71600	114	30	94000
	139	81100	100	30	101300
	165	80400	84	30	106700
	174	78800	78	30	108500
	207	79800	66	30	114200
	241	65000	46	30	119500

SG15L

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
L4	302	97000	57	18	127900
	370	97900	47	18	135900
	441	98700	40	18	143300
	487	99100	36	18	147600
	533	99500	33	18	151700
	591	99900	30	18	156400
	672	100600	27	18	162500
	741	101100	24	18	167400
	862	101900	21	18	175200
	930	92600	17.6	18	179200
	1043	103000	17.5	18	185500
	1104	94800	15.2	18	188700
	1284	96900	13.4	18	197400
	1492	83400	9.9	18	206000
	1805	83500	8.2	18	-

SG16L

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
L2	17.4	43900	200	50	90300
	22.3	48500	200	50	97300
	26.5	47700	200	50	102500
L3	59.6	63400	115	35	130700
	71.1	66900	115	35	137800
	76.5	70100	115	35	140800
	91.3	72100	115	35	148500
	108	75900	115	35	156300
	117	79400	115	35	160000
	139	81800	101	35	168500
	165	82500	86	35	177400
L4	215	93200	60	18	191900
	256	98200	60	18	202400
	302	103200	60	18	212700
	329	105800	57	18	218100
	370	109400	53	18	225900
	441	115200	46	18	238200
	487	118600	43	18	245400
	533	121800	40	18	252200
	566	123900	39	18	256700
	591	122500	37	18	260100
	625	126500	36	18	264500
	685	127800	33	18	271800
	726	128600	31	18	276700
	741	126500	30	18	278400
	812	130000	28	18	286100
	862	129000	27	18	291300
	1043	132300	23	18	308400
	1237	122100	17.5	18	324600

PERFORMANCE TABLE

SG17L

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
L3	58.1	90300	150	35	166800
	69.3	93300	150	35	175800
	89	101000	150	35	189500
	106	105800	150	35	199500
	116	108300	150	35	205200
	138	114000	143	35	216000
	166	120500	125	35	228300
	179	136600	131	35	233800
	213	142200	115	35	246100
	252	119700	82	35	259100
L4	310	146200	60	18	275500
	360	152900	60	18	288300
	449	163300	60	18	307900
	493	166900	60	18	316700
	552	174500	56	18	327600
	619	177200	51	18	339000
	719	178400	44	18	354700
	792	186500	42	18	365100
	904	166600	33	18	379800
	1032	181300	31	18	395300
	1134	168100	26	18	406600
	1318	169100	23	18	425400
	1595	170000	18.9	18	442000
	1893	156200	14.6	18	442000

SG18L

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
L3	76.5	144900	200	40	227200
	98.2	156100	200	40	244900
	117	164400	200	40	257800
	123	167200	200	40	262100
	146	176000	200	40	275900
	170	184100	186	40	288700
L4	262	209700	115	22	328800
	313	220800	115	22	346700
	337	225200	115	22	354400
	402	236100	104	22	373600
	422	239300	101	22	379300
	477	247200	92	22	393300
	515	252500	87	22	402700
	612	263300	76	22	423900
	647	264400	73	22	431100
	726	266600	65	22	446300
	768	267600	62	22	453800
	911	270900	53	22	477700
	1059	273800	46	22	499800

SG19L

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
L3	84.8	195400	200	50	269300
	109	222400	200	50	290200
	129	220800	200	50	305500
	137	226500	200	50	310700
	162	250300	200	50	326800
	188	209800	192	50	342200
	223	246100	190	50	359900
L4	347	298000	115	30	410900
	445	319800	115	30	442900
	528	335700	113	30	466200
	571	344400	107	30	477300
	678	354900	93	30	502400
	717	355800	88	30	510900
	850	363400	76	30	537900
	912	336100	65	30	549200
	1007	344900	61	30	565700
	1195	354500	53	30	595600
	1389	355900	45	30	623100

SG21L

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
L4	258	401700	150	35	461500
	308	423600	150	35	486600
	395	456500	150	35	524400
	469	480500	150	35	552000
	515	494200	150	35	567800
	612	519900	150	35	597700
	736	545400	131	35	631900
	796	556600	124	35	646900
	945	581800	109	35	681000
	1122	530200	84	35	716900

PERFORMANCE TABLE

SG00R

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT	F_{r2} [N] CFL
R2	7.13	580	13.7	12	2050	6170
	8.74	610	11.7	12	2190	6550
	11.8	590	8.3	12	2420	7180
	14.8	510	5.7	12	2610	7670
R3	24.8	730	5.1	12	3100	8960
	30.4	840	4.8	12	3320	9530
	37.3	840	3.9	12	3550	10100
	41.2	650	2.7	12	3670	10400
	50.4	850	2.9	12	3930	11100
	62.9	850	2.3	12	4230	11800
	68.2	650	1.6	12	4340	12100
	78.7	850	1.9	12	4550	12700
	85.2	650	1.3	12	4680	13000
R4	106	860	1.4	10	5030	13800
	130	860	1.2	10	5380	14700
	143	650	0.81	10	5560	15200
	159	870	0.97	10	5760	15600
	175	880	0.89	10	5950	16100
	215	910	0.75	10	6370	17100
	237	650	0.49	10	6580	17600
	268	930	0.62	10	6860	18300
	291	950	0.58	10	7040	18800
	363	980	0.48	10	7580	20000
	394	680	0.31	10	7790	20500
	453	1020	0.4	10	8160	2140
	491	710	0.25	10	8390	21900
	613	730	0.21	10	9030	23500

SG01R

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
R2	7.13	1040	15	12	6170
	8.74	1090	15	12	6550
	11.8	1150	15	12	7180
	14.8	940	10.6	12	7670
R3	24.8	1390	9.7	12	8960
	30.4	1580	8.9	12	9530
	37.3	1600	7.4	12	10100
	41.2	1300	5.4	12	10400
	50.4	1630	5.6	12	11100
	62.9	1650	4.5	12	11800
	68.2	1300	3.3	12	12100
	78.7	1570	3.4	12	12700
	85.2	1300	2.6	12	13000
R4	106	1700	2.8	10	13800
	130	1720	2.3	10	14700
	143	1300	1.6	10	15200
	159	1740	1.9	10	15600
	175	1770	1.8	10	16100
	215	1820	1.5	10	17100
	237	1300	0.97	10	17600
	268	1870	1.2	10	18300
	291	1890	1.2	10	18800
	363	1960	0.96	10	20000
	394	1360	0.61	10	20500
	453	1930	0.76	10	2140
	491	1410	0.51	10	21900
	613	1470	0.42	10	23500

SG03R

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
R2	9.23	1680	30	18	13600
	10.9	1900	29	18	14300
	13.7	1970	24	18	15300
	15.9	1820	19.1	18	16000
	19.2	1550	13.5	18	16900
R3	25.7	2030	13.6	14	18500
	31.5	2110	11.5	14	19600
	37.1	2390	11.1	14	20600
	42.6	2070	8.4	14	21500
	46.6	2160	8	14	22100
	50.3	2380	8.2	14	22600
	54.2	1820	5.8	14	23100
	63.1	2170	5.9	14	24200
	73.3	1820	4.3	14	25300
	78.7	2180	4.8	14	25900
	91.5	1820	3.4	14	27100
R4	129	2620	3.6	12	30000
	148	2310	2.8	12	31300
	158	2660	3	12	31900
	`	2310	2.2	12	33400
	214	2730	2.3	12	34900
	231	1830	1.4	12	35700
	255	1840	1.3	12	36800
	290	2650	1.6	12	38300
	313	1850	1.1	12	39100
	336	2270	1.2	12	40000
	364	2310	1.1	12	40900
	390	1930	0.88	12	41800
	452	2250	0.88	12	43700
	528	2030	0.68	12	45800
	567	2430	0.76	12	46800
	659	2110	0.57	12	48900
	797	1820	0.41	12	51800

PERFORMANCE TABLE

SG05R					
Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
R2	9.23	1680	30	18	13600
	10.9	1980	30	18	14300
	13.7	2490	30	18	15300
	15.9	2890	30	18	16000
	19.2	2860	25	18	16900
R3	25.7	3630	15	14	18500
	31.5	3770	15	14	19600
	37.1	4340	15	14	20600
	42.6	3790	15	14	21500
	46.6	4310	15	14	22100
	50.3	4410	15	14	22600
	54.2	3570	11.3	14	23100
	63.1	4330	11.8	14	24200
	73.3	3580	8.4	14	25300
	78.7	4350	9.5	14	25900
	91.5	3580	6.7	14	27100
R4	129	5200	7.1	12	30000
	148	4480	5.4	12	31300
	158	5310	6	12	31900
	185	4490	4.3	12	33400
	214	5390	4.5	12	34900
	231	3600	2.8	12	35700
	255	3600	2.5	12	36800
	290	5300	3.2	12	38300
	313	3620	2.1	12	39100
	336	4560	2.4	12	40000
	364	4620	2.3	12	40900
	390	3750	1.7	12	41800
	452	4750	1.9	12	43700
	528	3920	1.3	12	45800
	567	4860	1.5	12	46800
	659	4070	1.1	12	48900
	797	3450	0.77	12	51800

SG06R					
Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
R2	9.23	1680	30	18	22200
	10.9	1980	30	18	23400
	13.7	2490	30	18	25000
	15.9	2890	30	18	26200
	19.2	3490	30	18	27700
R3	33.2	5810	30	14	32700
	39.2	6550	29	14	34300
	46.3	7510	28	14	36100
	58.1	7580	22	14	38600
	67.5	7090	18.1	14	40400
	72.9	7420	17.5	14	41300
	84.7	7530	15.3	14	43300
	98.5	6490	11.3	14	45300
	119	6490	9.4	14	47900
	144	5490	6.6	14	50700
R4	158	9620	10.8	12	52100
	168	7560	8	12	53100
	181	9450	9.3	12	54300
	214	9730	8.1	12	57100
	230	7590	5.8	12	58400
	249	8200	5.9	12	59700
	289	8280	5.1	12	62500
	312	7590	4.3	12	63900
	389	7590	3.5	12	68300
	420	8790	3.7	12	69900
	455	7020	2.7	12	71600
	488	9020	3.3	12	73200
	550	7260	2.3	12	75800
	590	8480	2.5	12	77400
	665	6010	1.6	12	80300
	830	6270	1.3	12	85800

SG07R					
Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
R2	13	5110	66	35	26500
	15.5	6090	66	35	27900
	19.8	7820	66	35	30100
	23.5	7970	57	35	31700
R3	31.6	5570	30	22	34600
	37.7	6650	30	22	36500
	44.6	7860	30	22	38400
	55.9	9860	30	22	41100
	65	11000	29	22	43000
	71.8	10100	24	22	44300
	78.6	11100	24	22	45500
	83.4	10200	21	22	46300
	99	8580	14.9	22	48800
	120	8630	12.4	22	51600
R4	152	13500	15	15	55400
	165	10900	11.7	15	56900
	191	14000	13	15	59400
	206	14100	12.2	15	60700
	232	11100	8.5	15	63000
	258	14600	10	15	65000
	284	11300	7	15	66900
	300	14000	8.3	15	68000
	331	11500	6.2	15	70000
	363	12300	6	15	72000
	413	11900	5.1	15	74900
	453	13400	5.3	15	76900
	480	9330	3.4	15	78800
	581	12600	3.9	15	82900
	690	9800	2.5	15	87300

PERFORMANCE TABLE

SG09R					
Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
R2	13	5110	66	35	26900
	15.5	6090	66	35	28400
	19.8	7820	66	35	30600
	23.5	9280	66	35	32200
R3	31.6	5580	30	22	35200
	37.7	6650	30	22	37100
	44.6	7860	30	22	39000
	55.9	9860	30	22	41700
	65	11200	30	22	43700
	71.8	12700	30	22	45000
	83.4	14000	29	22	47100
	99	12800	22	22	49500
	120	12900	18.6	22	52500
R4	152	18600	15	15	56300
	165	16300	15	15	57800
	191	17300	15	15	60300
	206	19800	15	15	61700
	232	16700	12.7	15	64000
	258	17400	12	15	66000
	284	16900	10.5	15	68000
	300	18000	9.5	15	76100
	331	17200	9.2	15	71200
	374	14300	6.8	15	73800
	413	17900	7.7	15	76100
	453	17000	5.9	15	78400
	480	14000	5.1	15	80100
	581	15800	4.8	15	84300
	690	14800	3.8	15	88700

SG10R					
Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
R2(B)	12	10100	130	55	31200
	15.4	10700	115	55	33600
	18.3	11100	101	55	35400
R2(C)	16.6	11200	112	55	34400
	21.3	11800	92	55	37100
	25.3	12200	81	55	39000
R3	37.7	6650	30	22	44000
	44.6	7860	30	22	46200
	55.9	9860	30	22	49500
	65	11500	30	22	51700
	71.8	12700	30	22	53300
	78.6	13900	30	22	54800
	83.4	14700	30	22	55800
	99	16400	29	22	58700
	120	17400	25	22	62200
R4	136	21000	27	15	64600
	160	22000	24	15	67800
	189	23200	22	15	71300
	206	22100	19	15	73100
	234	24700	18.7	15	76000
	258	22800	15.7	15	78300
	298	26100	16.4	15	80500
	305	23400	13.6	15	82300
	334	27400	14.6	15	84600
	363	24100	11.8	15	86700
	419	29000	12.3	15	90500
	445	20000	7.8	15	92700
	517	25600	8.8	15	96400
	590	21800	6.6	15	100300
	626	21500	6	15	102700
	757	26400	6.2	15	108100
	898	23200	4.6	15	113800

SG11R					
Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
R2(B)	12	11900	150	75	36900
	15.4	15400	150	75	39700
	18.3	16000	146	75	41800
R2(C)	16.6	14400	144	90	40600
	21.3	16900	132	90	43800
	25.3	17600	116	90	46100
R3	53	20300	66	40	57500
	63.2	24000	65	40	60600
	68	24000	61	40	62000
	81.1	25900	55	40	65400
	96.3	27200	49	40	68800
	104	28700	47	40	70400
	124	30200	42	40	74100
	147	26900	32	40	78100
R4	154	26400	30	22	79300
	182	31200	30	22	83300
	198	33800	30	22	85400
	229	35300	27	22	89200
	266	36900	25	22	93300
	294	38000	23	22	96100
	322	39000	22	22	98800
	341	39200	20	22	100600
	413	40600	17.4	22	106500
	438	37500	15.2	22	108400
	490	34500	12.5	22	112100
	520	38600	13.2	22	114100
	629	39700	11.2	22	120800
	746	30500	7.3	22	127200

PERFORMANCE TABLE

SG13R

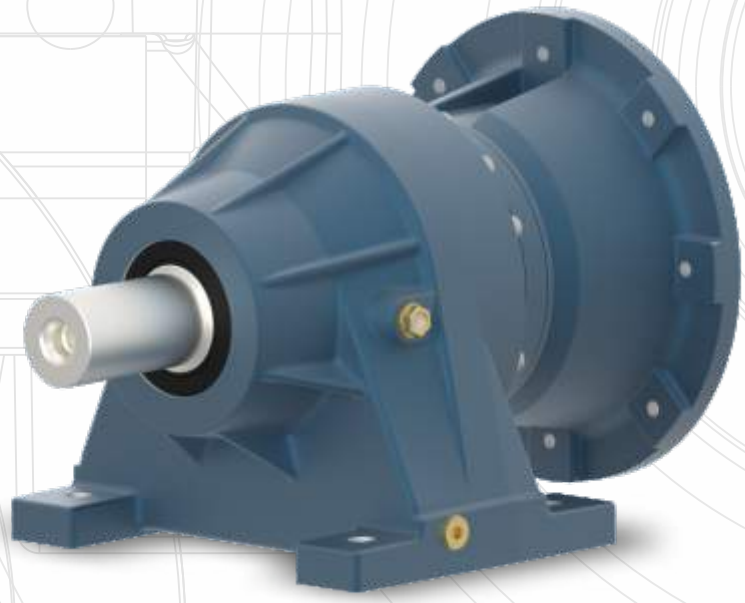
Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
R2(B)	12.2	12100	150	75	45700
	15.9	15700	150	75	49500
	19.1	19100	150	75	52300
R2(C)	16.8	14600	144	90	50400
	22	19000	144	90	54600
	26.4	22800	144	90	57700
R3	53.7	20500	66	40	71300
	64	24500	66	40	75200
	69.9	26700	66	40	77200
	82.2	31400	66	40	81100
	97.5	37300	66	40	85300
	107	38800	62	40	87800
	127	40700	55	40	92400
	153	39000	44	40	97700
R4	185	31600	30	22	103300
	201	34300	30	22	106000
	237	40500	30	22	111400
	281	48100	30	22	117200
	309	44500	26	22	120600
	346	53000	27	22	124700
	387	46700	21	22	129100
	450	47700	18.8	22	136100
	496	52100	18.6	22	139000
	535	48900	16.2	22	142200
	647	50400	13.8	22	150500
	778	44200	10.1	22	159100

SG14R

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
R3(B)	51.1	38500	130	55	75000
	65.5	49700	130	55	80900
	77.8	52400	114	55	85100
	82.3	55100	110	55	86600
	97.6	43900	97	55	91100
	113	49800	93	55	95300
R3(C)	70.7	51500	107	55	82700
	90.7	48000	90	55	89200
	108	47300	80	55	93900
	114	51700	78	55	95400
	135	60500	77	55	100500
	157	52000	57	55	105100
R4	160	56200	35	22	105800
	189	59300	35	22	111200
	238	71100	35	22	119000
	276	75700	35	22	124500
	354	78200	35	22	134200
	421	78800	33	22	141300
	445	67800	27	22	143600
	528	68800	23	22	151200
	614	57600	16.7	22	158200

SG15R

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
R3(B)	51.1	48100	150	75	75000
	65.5	62100	150	75	80900
	77.8	64400	143	75	85100
	82.3	65500	137	75	86600
	97.6	68800	121	75	91100
	113	64000	91	75	95300
R3(C)	70.7	54900	134	90	82700
	90.7	59200	112	90	89200
	108	62300	100	90	93900
	114	64700	98	90	95400
	135	75700	96	90	100500
	157	65000	71	90	105100
R4	225	77700	61	40	117100
	269	82000	54	40	123500
	345	96000	49	40	133100
	409	98300	43	40	140100
	525	99400	34	40	151000
	623	100200	29	40	158900
	659	88200	24	40	161600
	782	90300	20	40	170200
	909	76900	15	40	178000



PERFORMANCE TABLE

SG17R

Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
R3(B)	49.8	46900	150	90	159200
	64.9	61200	150	90	172400
	78.1	75100	150	90	182200
	83.3	80200	150	90	185800
	100	96200	150	90	196400
	119	111000	150	90	206700
R3(C)	68.9	57800	144	100	175500
	89.8	75300	144	100	190000
	108	90600	144	100	200900
	115	96600	144	100	204800
	139	116300	144	100	216500
	165	118900	124	100	227900
R4	220	81400	66	50	248500
	262	97200	66	50	262000
	336	124700	66	50	282300
	399	148000	66	50	297200
	438	157000	64	50	305700
	520	164800	56	50	321800
	626	155000	44	50	340200
	677	164700	43	50	348300
	803	165900	37	50	366700
	953	145000	27	50	386000

SG18R

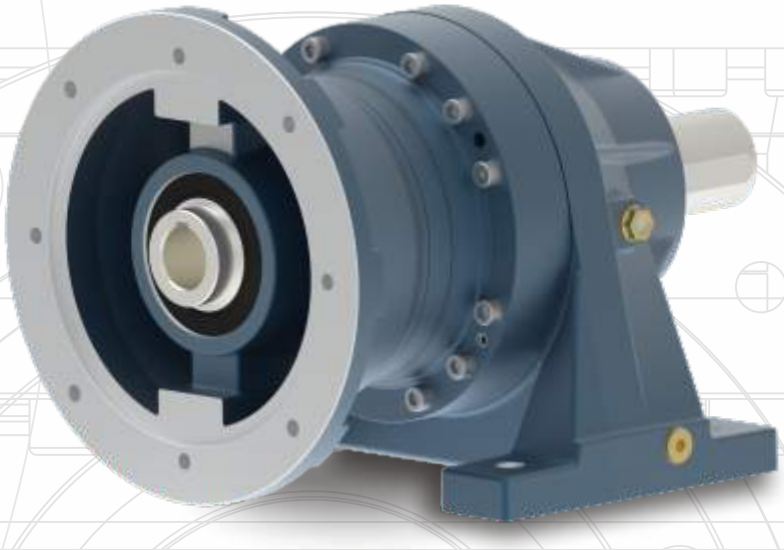
Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
R4(B)	225	200200	150	90	313900
	288	215700	133	90	338300
	342	226200	117	90	356100
	362	229600	113	90	362100
	430	240400	99	90	381200
	499	250300	89	90	398900
R4(C)	311	220500	126	110	346100
	399	235700	105	110	373000
	474	246800	92	110	392600
	501	250600	89	110	399300
	595	262400	78	110	420300
	691	265600	68	110	439700

SG19R

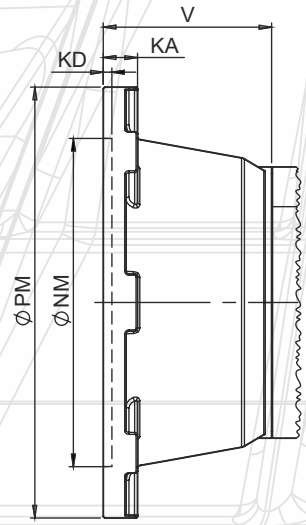
Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
R4(B)	249	227700	150	95	372100
	320	289000	150	95	401000
	379	304200	142	95	422100
	401	310500	137	95	429200
	475	300900	112	95	451500
	563	313000	99	95	475300
	655	321300	87	95	497300
R4(C)	345	259700	134	115	410200
	442	279900	112	115	442100
	525	294600	100	115	465400
	555	306300	98	115	473200
	657	322200	87	115	497800
	780	331100	75	115	524000
	906	335900	66	115	548200

SG21R

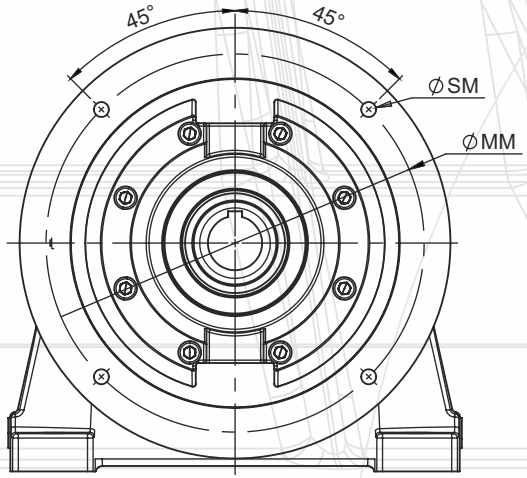
Stages	i	M_{n2} [Nm]	P_1 [kW]	P_t [kW]	F_{r2} [N] CFT / CFL
R4(B)	221	205600	150	105	440600
	288	265300	150	105	477000
	347	320600	150	105	504300
	370	341300	150	105	514100
	446	409600	150	105	543500
	529	484700	150	105	572100
R4(C)	306	249000	144	125	485700
	399	324600	144	125	525900
	481	390700	144	125	556000
	512	416600	144	125	566800
	617	501400	144	125	599200
	732	521400	126	125	630800



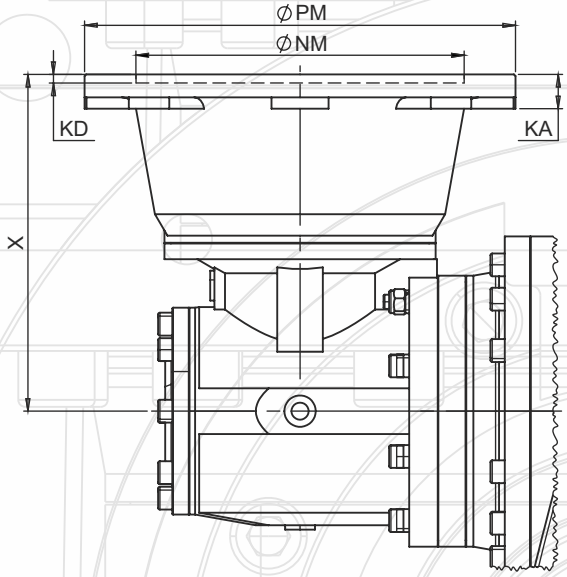
INPUT FLANGE



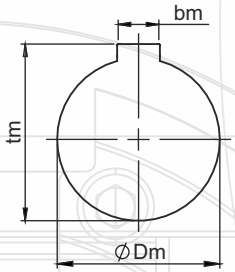
Inline Input
SG00L ~ SG21L



Input Flange



Bevel Input
SG00R ~ SG21R



Hollow Input Shaft

Length of IEC Input Flange ('V')										
Size	**Stages**	**71**	**80 / 90**	**100 / 112**	**132**	**160**	**180**	**200**	**225**	**250**
SG00 SG01	**L1/L2/L3/L4 R2/R3/R4**	65	84	94	114	-	-	-	-	-
SG03 SG05	**L1**	-	-	-	114	144	144	174	-	-
	L2/L3/L4	65	84	94	114	144	-	-	-	-
	R2/R3/R4	65	84	94	114	-	-	-	-	-
SG06	**L1**	-	-	-	-	144	153	183	212	193
	L2	-	-	-	114	144	144	174	-	-
	L3/L4 R2/R3/R4	65	84	94	114	144	-	-	-	-
SG07 SG09	**L1**	-	-	-	-	-	195	186	216	216
	L2/R2	-	-	-	114	144	144	174	-	-
	L3/L4/R3/R4	65	84	94	114	144	-	-	-	-
SG10	**L1**	-	-	-	-	-	-	271	301	281
	L2	-	-	-	-	144	53	183	212	193
	L3	-	-	-	114	144	144	174	-	-
	L4/R3/R4	65	84	94	114	144	-	-	-	-
	R2(B)	-	-	-	-	-	153	183	212	-
	R2(C)	-	-	-	114	144	153	183	212	-
SG11 SG13	**L2**	-	-	-	-	-	195	186	216	216
	L3/R3	-	-	-	114	144	144	174	-	-
	L4/R4	65	84	94	114	144	-	-	-	-
	R2(B)/R2(C)	-	-	-	-	-	153	183	212	193
SG14	**L2**	-	-	-	-	-	-	271	301	281
	L3	-	-	-	-	144	153	183	212	193
	L4	-	-	-	114	144	144	174	-	-
	R3(B)/R3(C)	-	-	-	-	-	153	183	212	193
	R4	65	84	94	114	144	-	-	-	-
SG15	**L3**	-	-	-	-	-	195	186	216	216
SG16	**L4/R4**	-	-	-	114	144	144	174	400	-
SG17	**R3(B)/R3(C)**	-	-	-	-	-	153	183	212	193
SG18 SG19 SG21	**L4**	-	-	-	-	-	195	186	216	216
	R4(B)/R3(C)	-	-	-	-	-	153	183	212	193

INPUT FLANGE DIMENSIONS

Input Flange Dimensions										
Size	Input Flange	PM	NM	MM	SM	KA	KD	Dm	bm	tm
SG00L SG00R	71B5	160	110	130	10	10	4.5	14	5	16.3
	80B5	200	130	165	12	12	4.5	19	6	21.8
	90B5	200	130	165	12	12	4.5	24	8	27.3
	100/112B5	250	180	215	14	13	5	28	8	31.3
	132B5	300	230	265	14	14	5	38	12	41.3
SG01L SG01R	71B5	160	110	130	10	10	4.5	14	5	16.3
	80B5	200	130	165	12	12	4.5	19	6	21.8
	90B5	200	130	165	12	12	4.5	24	8	27.3
	100/112B5	250	180	215	14	13	5	28	8	31.3
	132B5	300	230	265	14	14	5	38	12	41.3
SG03L SG03R	71B5	160	110	130	10	10	4.5	14	5	16.3
	80B5	200	130	165	12	12	4.5	19	6	21.8
	90B5	200	130	165	12	12	4.5	24	8	27.3
	100/112B5	250	180	215	14	13	5	28	8	31.3
	132B5	300	230	265	14	14	5	38	12	41.3
	160B5	350	250	300	19	14	5	42	12	45.5
	180B5	350	250	300	19	15	5	48	14	51.8
	200B5	400	300	350	19	16	5	55	16	59.3
SG05L SG05R	71B5	160	110	130	10	10	4.5	14	5	16.3
	80B5	200	130	165	12	12	4.5	19	6	21.8
	90B5	200	130	165	12	12	4.5	24	8	27.3
	100/112B5	250	180	215	14	13	5	28	8	31.3
	132B5	300	230	265	14	14	5	38	12	41.3
	160B5	350	250	300	19	14	5	42	12	45.5
	180B5	350	250	300	19	15	5	48	14	51.8
	200B5	400	300	350	19	16	5	55	16	59.3
SG06L SG06R	71B5	160	110	130	10	10	4.5	14	5	16.3
	80B5	200	130	165	12	12	4.5	19	6	21.8
	90B5	200	130	165	12	12	4.5	24	8	27.3
	100/112B5	250	180	215	14	13	5	28	8	31.3
	132B5	300	230	265	14	14	5	38	12	41.3
	160B5	350	250	300	19	14	5	42	12	45.5
	180B5	350	250	300	19	15	5	48	14	51.8
	200B5	400	300	350	19	16	5	55	16	59.3
	225B5-2P	450	350	400	19	22	5	55	16	59.3
	225B5-4P-8P	450	350	400	19	22	5	60	18	64.4
	250B5-2P	550	450	500	19	25	5	60	18	64.4
	250B5-4P-8P	550	450	500	19	25	5	65	18	69.4

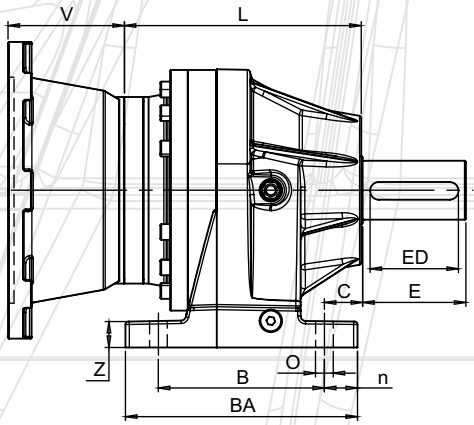
Input Flange Dimensions										
Size	Input Flange	PM	NM	MM	SM	KA	KD	Dm	bm	tm
SG07L SG07R	71B5	160	110	130	10	10	4.5	14	5	16.3
	80B5	200	130	165	12	12	4.5	19	6	21.8
	90B5	200	130	165	12	12	4.5	24	8	27.3
	100/112B5	250	180	215	14	13	5	28	8	31.3
	132B5	300	230	265	14	14	5	38	12	41.3
	160B5	350	250	300	19	14	5	42	12	45.5
	180B5	350	250	300	19	15	5	48	14	51.8
	200B5	400	300	350	19	16	5	55	16	59.3
	225B5-2P	450	350	400	19	22	5	55	16	59.3
	225B5-4P-8P	450	350	400	19	22	5	60	18	64.4
	250B5-2P	550	450	500	19	25	5	60	18	64.4
	250B5-4P-8P	550	450	500	19	25	5	65	18	69.4
SG09L SG09R	71B5	160	110	130	10	10	4.5	14	5	16.3
	80B5	200	130	165	12	12	4.5	19	6	21.8
	90B5	200	130	165	12	12	4.5	24	8	27.3
	100/112B5	250	180	215	14	13	5	28	8	31.3
	132B5	300	230	265	14	14	5	38	12	41.3
	160B5	350	250	300	19	14	5	42	12	45.5
	180B5	350	250	300	19	15	5	48	14	51.8
	200B5	400	300	350	19	16	5	55	16	59.3
	225B5-2P	450	350	400	19	22	5	55	16	59.3
	225B5-4P-8P	450	350	400	19	22	5	60	18	64.4
	250B5-2P	550	450	500	19	25	5	60	18	64.4
	250B5-4P-8P	550	450	500	19	25	5	65	18	69.4
SG10L SG10R	71B5	160	110	130	10	10	4.5	14	5	16.3
	80B5	200	130	165	12	12	4.5	19	6	21.8
	90B5	200	130	165	12	12	4.5	24	8	27.3
	100/112B5	250	180	215	14	13	5	28	8	31.3
	132B5	300	230	265	14	14	5	38	12	41.3
	160B5	350	250	300	19	14	5	42	12	45.5
	180B5	350	250	300	19	15	5	48	14	51.8
	200B5	400	300	350	19	16	5	55	16	59.3
	225B5-2P	450	350	400	19	22	5	55	16	59.3
	225B5-4P-8P	450	350	400	19	22	5	60	18	64.4
	250B5-2P	550	450	500	19	25	5	60	18	64.4
	250B5-4P-8P	550	450	500	19	25	5	65	18	69.4

INPUT FLANGE DIMENSIONS

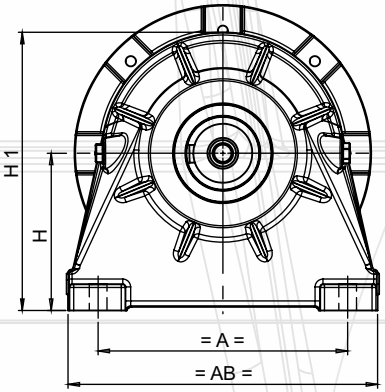
Input Flange Dimensions										
Size	Input Flange	PM	NM	MM	SM	KA	KD	Dm	bm	tm
SG11L SG11R	71B5	160	110	130	10	10	4.5	14	5	16.3
	80B5	200	130	165	12	12	4.5	19	6	21.8
	90B5	200	130	165	12	12	4.5	24	8	27.3
	100/112B5	250	180	215	14	13	5	28	8	31.3
	132B5	300	230	265	14	14	5	38	12	41.3
	160B5	350	250	300	19	14	5	42	12	45.5
	180B5	350	250	300	19	15	5	48	14	51.8
	200B5	400	300	350	19	16	5	55	16	59.3
	225B5-2P	450	350	400	19	22	5	55	16	59.3
	225B5-4P-8P	450	350	400	19	22	5	60	18	64.4
	250B5-2P	550	450	500	19	25	5	60	18	64.4
	250B5-4P-8P	550	450	500	19	25	5	65	18	69.4
SG13L SG13R	71B5	160	110	130	10	10	4.5	14	5	16.3
	80B5	200	130	165	12	12	4.5	19	6	21.8
	90B5	200	130	165	12	12	4.5	24	8	27.3
	100/112B5	250	180	215	14	13	5	28	8	31.3
	132B5	300	230	265	14	14	5	38	12	41.3
	160B5	350	250	300	19	14	5	42	12	45.5
	180B5	350	250	300	19	15	5	48	14	51.8
	200B5	400	300	350	19	16	5	55	16	59.3
	225B5-2P	450	350	400	19	22	5	55	16	59.3
	225B5-4P-8P	450	350	400	19	22	5	60	18	64.4
	250B5-2P	550	450	500	19	25	5	60	18	64.4
	250B5-4P-8P	550	450	500	19	25	5	65	18	69.4
SG14L SG14R	71B5	160	110	130	10	10	4.5	14	5	16.3
	80B5	200	130	165	12	12	4.5	19	6	21.8
	90B5	200	130	165	12	12	4.5	24	8	27.3
	100/112B5	250	180	215	14	13	5	28	8	31.3
	132B5	300	230	265	14	14	5	38	12	41.3
	160B5	350	250	300	19	14	5	42	12	45.5
	180B5	350	250	300	19	15	5	48	14	51.8
	200B5	400	300	350	19	16	5	55	16	59.3
	225B5-2P	450	350	400	19	22	5	55	16	59.3
	225B5-4P-8P	450	350	400	19	22	5	60	18	64.4
	250B5-2P	550	450	500	19	25	5	60	18	64.4
	250B5-4P-8P	550	450	500	19	25	5	65	18	69.4

Input Flange Dimensions										
Size	Input Flange	PM	NM	MM	SM	KA	KD	Dm	bm	tm
SG15L SG15R	132B5	300	230	265	14	14	5	38	12	41.3
	160B5	350	250	300	19	14	5	42	12	45.5
	180B5	350	250	300	19	15	5	48	14	51.8
	200B5	400	300	350	19	16	5	55	16	59.3
	225B5-2P	450	350	400	19	22	5	55	16	59.3
	225B5-4P-8P	450	350	400	19	22	5	60	18	64.4
	250B5-2P	550	450	500	19	25	5	60	18	64.4
	250B5-4P-8P	550	450	500	19	25	5	65	18	69.4
SG16L SG16R	132B5	300	230	265	14	14	5	38	12	41.3
	160B5	350	250	300	19	14	5	42	12	45.5
	180B5	350	250	300	19	15	5	48	14	51.8
	200B5	400	300	350	19	16	5	55	16	59.3
	225B5-2P	450	350	400	19	22	5	55	16	59.3
	225B5-4P-8P	450	350	400	19	22	5	60	18	64.4
	250B5-2P	550	450	500	19	25	5	60	18	64.4
	250B5-4P-8P	550	450	500	19	25	5	65	18	69.4
SG17L SG17R	132B5	300	230	265	14	14	5	38	12	41.3
	160B5	350	250	300	19	14	5	42	12	45.5
	180B5	350	250	300	19	15	5	48	14	51.8
	200B5	400	300	350	19	16	5	55	16	59.3
	225B5-2P	450	350	400	19	22	5	55	16	59.3
	225B5-4P-8P	450	350	400	19	22	5	60	18	64.4
	250B5-2P	550	450	500	19	25	5	60	18	64.4
	250B5-4P-8P	550	450	500	19	25	5	65	18	69.4
SG18L SG18R	180B5	350	250	300	19	15	5	48	14	51.8
	200B5	400	300	350	19	16	5	55	16	59.3
	225B5-2P	450	350	400	19	22	5	55	16	59.3
	225B5-4P-8P	450	350	400	19	22	5	60	18	64.4
	250B5-2P	550	450	500	19	25	5	60	18	64.4
	250B5-4P-8P	550	450	500	19	25	5	65	18	69.4
SG19L SG19R	180B5	350	250	300	19	15	5	48	14	51.8
	200B5	400	300	350	19	16	5	55	16	59.3
	225B5-2P	450	350	400	19	22	5	55	16	59.3
	225B5-4P-8P	450	350	400	19	22	5	60	18	64.4
	250B5-2P	550	450	500	19	25	5	60	18	64.4
	250B5-4P-8P	550	450	500	19	25	5	65	18	69.4
SG21L SG21R	180B5	350	250	300	19	15	5	48	14	51.8
	200B5	400	300	350	19	16	5	55	16	59.3
	225B5-2P	450	350	400	19	22	5	55	16	59.3
	225B5-4P-8P	450	350	400	19	22	5	60	18	64.4
	250B5-2P	550	450	500	19	25	5	60	18	64.4
	250B5-4P-8P	550	450	500	19	25	5	65	18	69.4

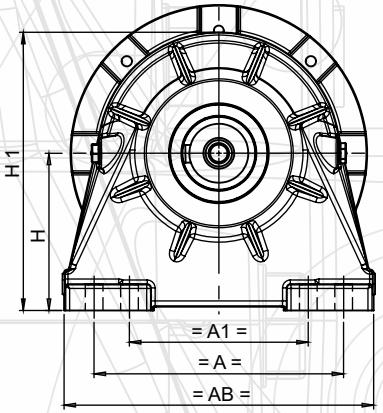
CFT - Solid keyed shaft with foot base



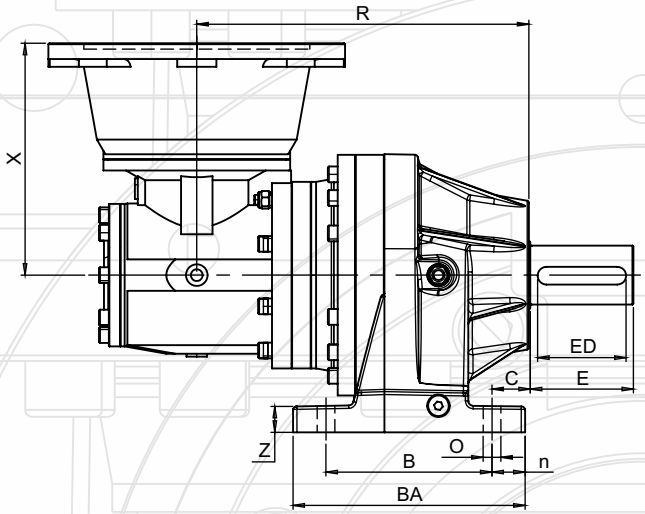
Inline Input
SG00L ~ SG21L



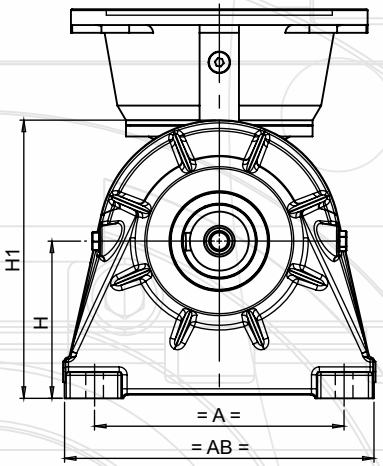
For SG00L ~ SG13L & SG19L



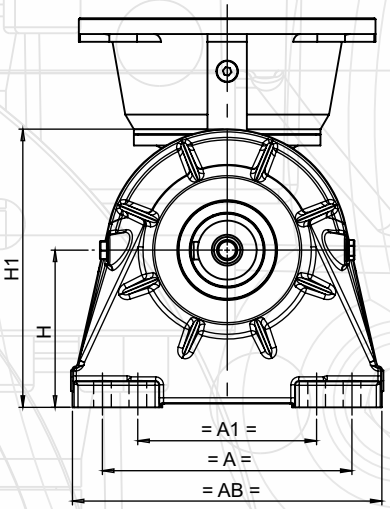
For SG14L, SG15, SG16L, SG18L, SG21



Bevel Input
SG00R ~ SG21R

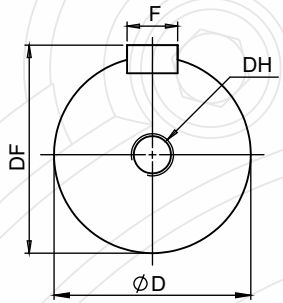


For SG00R ~ SG13R & SG19R

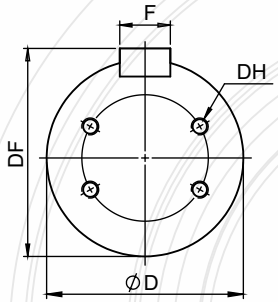


For SG14R, SG15R, SG16R, SG18R, SG21R

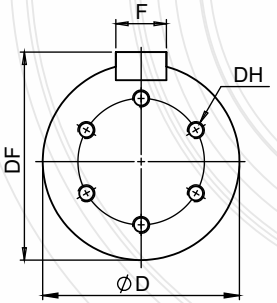
Solid Output Shaft for CFT - CFL



For SG00 ~ SG15



For SG16, SG18



For SG17, SG19, SG21

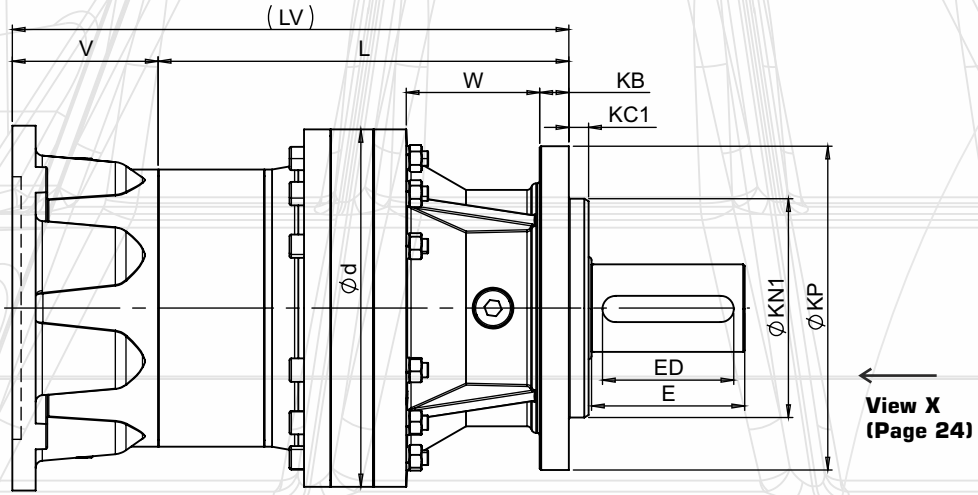
FOOT MOUNTED (CFT) DIMENSIONS

GBX Size	Foot Dimensions										Output Shaft Dimensions						Inline Input (SG--L)		Bevel Input (SG--R)		
	A A1	AB	B	BA	H	H1	O	C	n	Z	ØD	E	ED	F	DF	DH	Stages	Length 'L'	Stages	Length 'R'	X2
SG00	165	205	120	160	100	195	4-Ø11	16	20	13	Ø38(h6)	58	50	10	41	M12x28	L1	86	-	-	-
																	L2	139	R2	178	122
																	L3	195	R3	231	122
																	L4	245	R4	284	122
SG01	216	260	138	180	132	227	4-Ø17	24	21	15	Ø50(h6)	82	70	14	53.5	M12x36	L1	132	-	-	-
																	L2	185	R2	225	122
																	L3	238	R3	278	122
																	L4	291	R4	331	122
SG03	254	310	169	235	160	282	4-Ø18	39	33	22	Ø60(h6)	105	90	12	64	M20x50	L1	165	-	-	-
																	L2	218	R2	257	140
																	L3	271	R3	310	122
																	L4	324	R4	363	122
SG05	254	310	169	235	160	282	4-Ø18	39	33	22	Ø60(h6)	105	90	12	64	M20x50	L1	183	-	-	-
																	L2	248	R2	275	140
																	L3	301	R3	340	122
																	L4	354	R4	393	122
SG06	279	350	201	281	180	327	4-Ø22	65	40	25	Ø80(h6)	130	110	22	85	M20x50	L1	235	-	-	-
																	L2	300	R2	372	140
																	L3	353	R3	392	140
																	L4	406	R4	445	122
SG07	318	390	219	289	200	375	4-Ø26	66	35	25	Ø90(h6)	170	150	25	95	M20x50	L1	246	-	-	-
																	L2	335	R2	365	225
																	L3	400	R3	427	140
																	L4	453	R4	492	122
SG09	356	445	300	400	225	414	4-Ø26	54	50	24	Ø100(m6)	165	150	28	106.4	M24x50	L1	267	-	-	-
																	L2	356	R2	386	225
																	L3	421	R3	448	140
																	L4	474	R4	513	122
SG10	406	500	320	420	250	469	4-Ø26	90	50	26	Ø110(m6)	210	200	28	116	M24x50	L1	288	R2(B)	495	345
																	L2	424	R2(C)	513	390
																	L3	489	R3	561	140
																	L4	542	R4	581	140

FOOT MOUNTED (CFT) DIMENSIONS

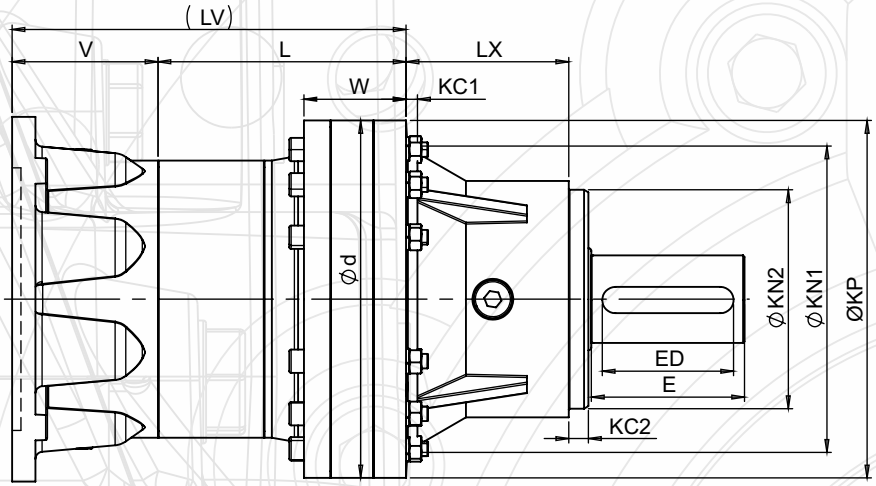
GBX Size	Foot Dimensions										Output Shaft Dimensions						Inline Input (SG--L)		Bevel Input (SG--R)		
	A A1	AB	B	BA	H	H1	O	C	n	Z	ØD	E	ED	F	DF	DH	Stages	Length 'L'	Stages	Length 'R'	X2
SG11	457	550	334	430	280	516	4-Ø33	110	48	30	Ø120(m6)	210	180	32	127	M24x50	L1	325	R2(B)	550	345
																	L2	458	R2(C)	550	390
																	L3	547	R3	577	225
																	L4	612	R4	639	140
SG13	457	550	400	520	280	523	4-Ø33	111	60	30	Ø140(m6)	200	180	36	148	M24x50	-	-	R2(B)	611	345
																	L2	531	R2(C)	611	390
																	L3	620	R3	650	225
																	L4	685	R4	712	140
SG14	508 368	620	412	556	315	613	8-Ø33	169	72	35	Ø160(m6)	240	220	40	169.4	M24x50	L2	641	R3(B)	848	345
																	L3	777	R3(C)	856	390
																	L4	842	R4	914	225
SG15	508 368	620	412	556	315	613	8-Ø33	169	72	35	Ø160(m6)	240	220	40	169.4	M24x50	L2	665	R3(B)	611	345
																	L3	798	R3(C)	611	390
																	L4	887	R4	638	225
SG16	500 650	780	650	670	400	770	8-Ø38	10	75	45	Ø180(m6)	260	240	45	190	4-M16x26 (On 110 PCD)	-	-	R3(B)	766	345
																	L3	674	R3(C)	766	390
																	L4	763	R4	793	225
SG17	700	850	450	660	415	763	4-Ø33	27	105	40	Ø200(r6)	260	250	45	210	6-M16x30 (On 140 PCD)	L2	624	R3(B)	701	345
																	L3	774	R3(C)	701	390
																	L4	862	R4	740	225
SG18	610 760	900	650	800	500	935	8-Ø38	30	75	50	Ø250(r6)	330	310	56	262	4-M24x41 (On 150 PCD)	L2	677	-	-	-
																	L3	889	R4(B)	1115	345
																	L4	1022	R4	1115	390
SG19	850	1000	540	740	550	1020	4-Ø52	60	100	43	Ø280(h6)	380	350	63	292	12-M20x40 (On 200 PCD)	L2	395	-	-	-
																	L3	990	R4(B)	1215	345
																	L4	1123	R4(C)	1215	390
SG21	500 1000	1300	900	1100	650	1200	8-Ø52	-140	100	50	Ø340(m6)	540	500	80	355	12-M20x40 (On 250 PCD)	L3	1104	R4(B)	1334	345
																	L4	1253	R4(C)	1334	390

CFL - Solid keyed shaft with output flange



View X (Page 24)

Inline Input
For SG00L ~ SG07L & SG16L ~ SG18L



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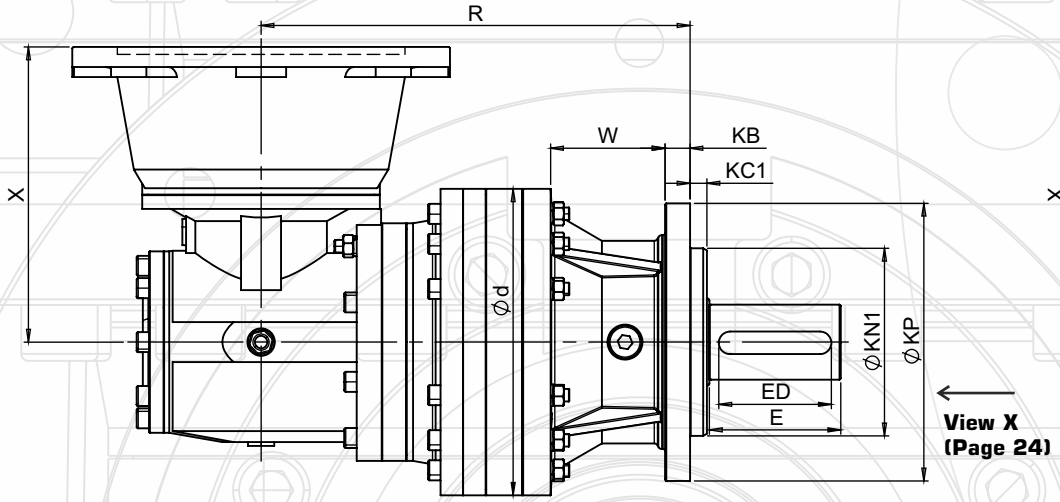
Inline Input
For SG09L ~ SG15L & SG19L,SG21L



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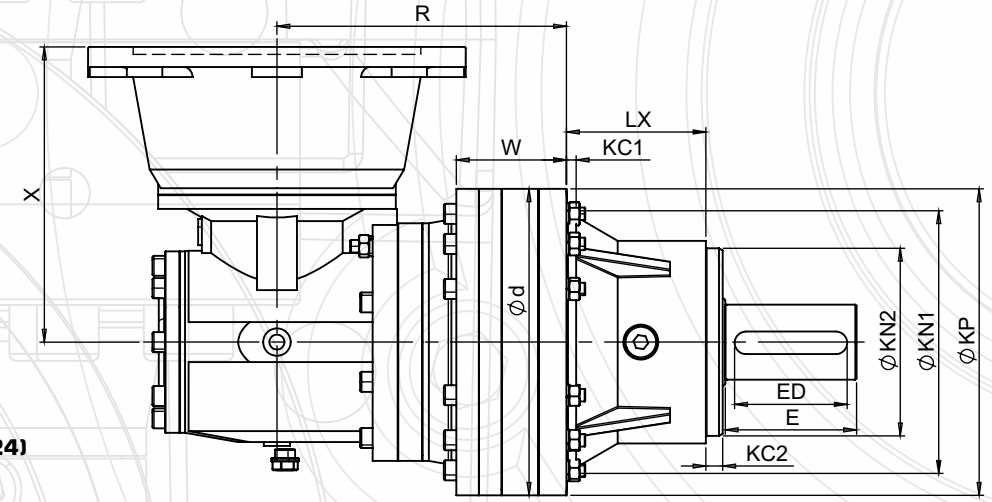
Bevel Input
For SG00R ~ SG07R & SG16R ~ SG18R



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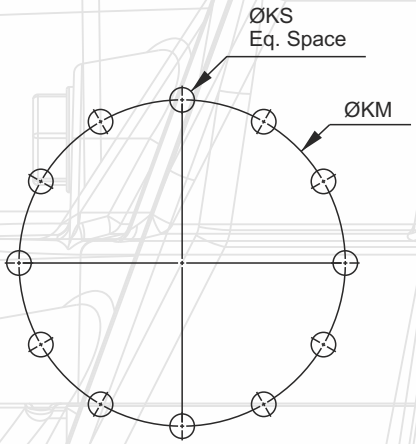
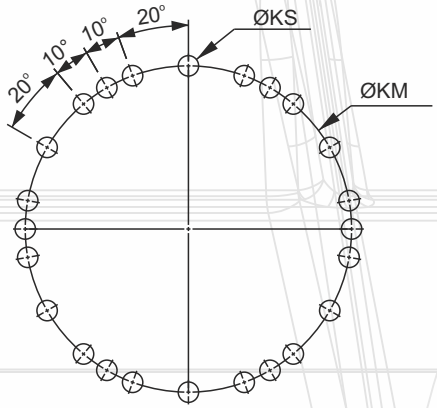
Bevel Input
For SG09R ~ SG15R & SG19R,SG21R

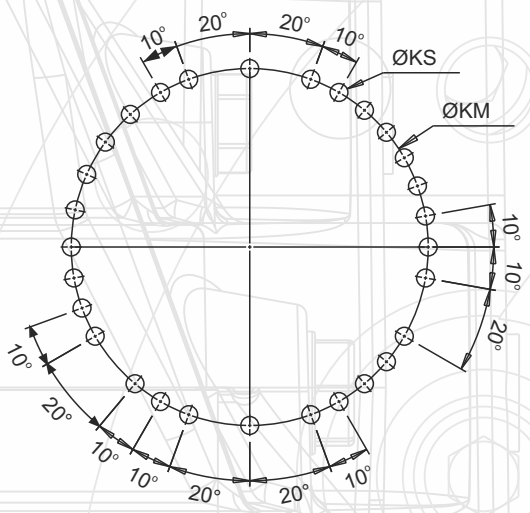
Output Flange Mounting Dimensions for CFL (Veiw X)



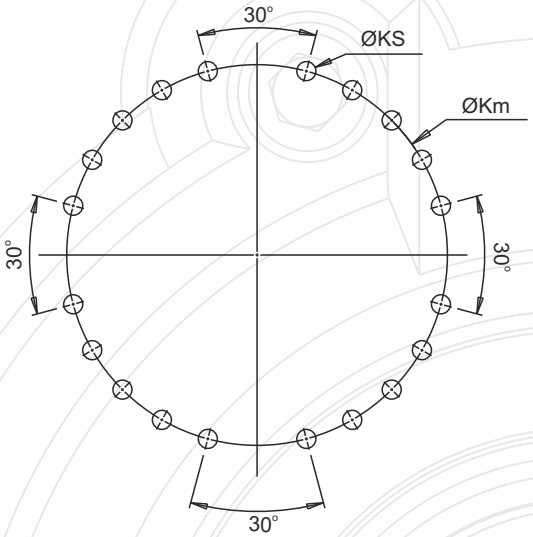
For SG00 ~ SG10, SG16, SG21



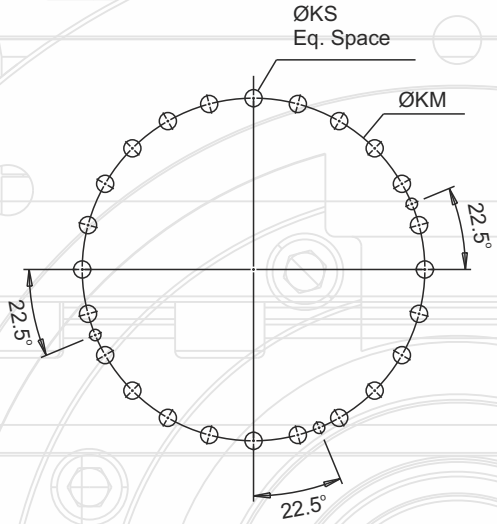
For SG11



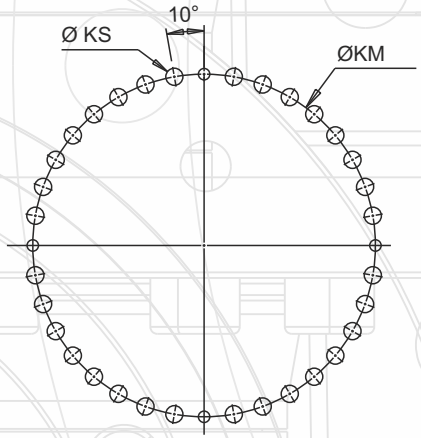
For SG13



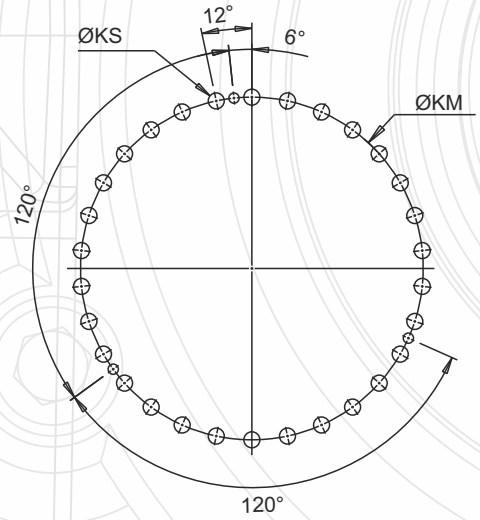
For SG14 ~ SG15



For SG17



For SG18



For SG19

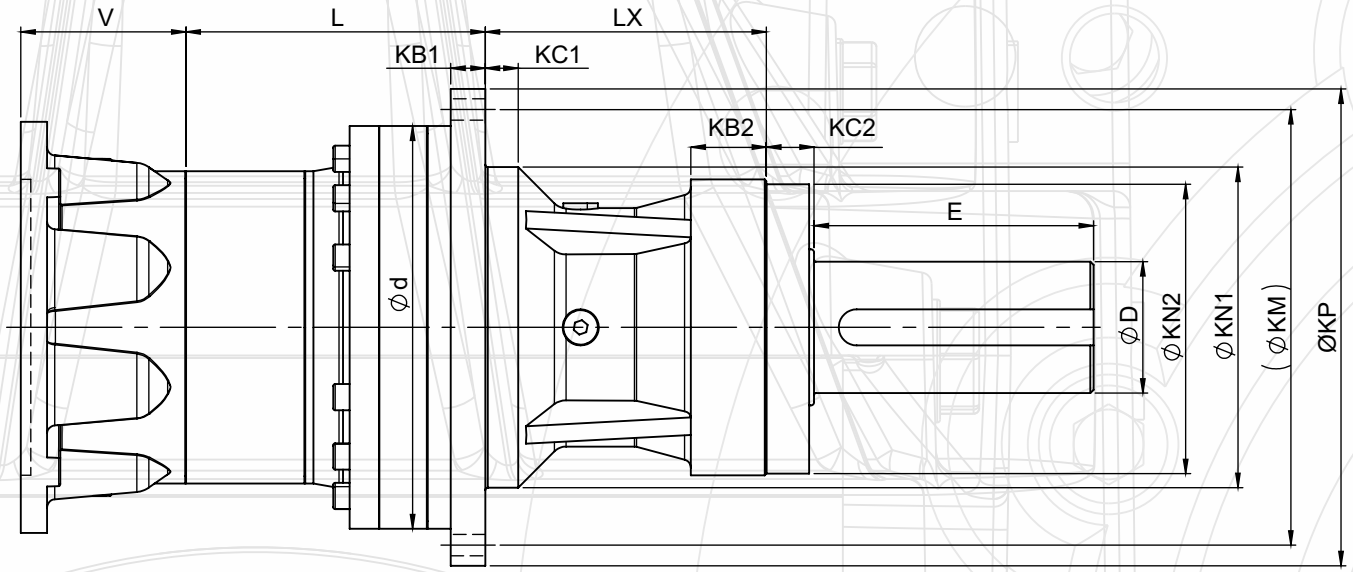
FLANGE MOUNTED (CFL) DIMENSIONS

GBX Size	Flange Dimensions											Output Shaft Dimensions						Inline Input (SG--L)		Bevel Input (SG--R)		
	d	KP	KN1	KN2	KM	KB	KC1	KC2	LX	KS	W	D	E	ED	F	DF	DH	Stages	L	Stages	R	'X'
SG00	Ø190	Ø185	Ø110 (f7)	-	Ø165	12	5	-	-	8-Ø10.5	71	Ø38(h6)	58	50	10	41	M12x28	L1	115	-	-	-
																		L2	168	R2	207	122
																		L3	221	R3	260	122
																		L4	274	R4	313	122
SG01	Ø190	Ø185	Ø110 (f7)	-	Ø165	12	5	-	-	8-Ø10.5	91	Ø50(h6)	82	70	14	53.5	M12x36	L1	126	-	-	-
																		L2	176	R2	219	122
																		L3	282	R3	272	122
																		L4	285	R4	325	122
SG03	Ø245	Ø222	Ø150 (f7)	-	Ø195	20	13	-	-	10-Ø12.5	91	Ø60(h6)	105	90	12	64	M20x50	L1	150	-	-	-
																		L2	203	R2	242	140
																		L3	256	R3	295	122
																		L4	309	R4	350	122
SG05	Ø245	Ø222	Ø150 (f7)	-	Ø195	20	13	-	-	10-Ø12.5	91	Ø60(h6)	105	90	12	64	M20x50	L1	168	-	-	-
																		L2	233	R2	260	140
																		L3	286	R3	352	122
																		L4	339	R4	378	122
SG06	Ø294	Ø280	Ø200 (f7)	-	Ø250	20	12	-	-	12-Ø15	107	Ø80(h6)	130	110	22	85	M20x50	L1	195	-	-	-
																		L2	200	R2	332	140
																		L3	313	R3	352	140
																		L4	366	R4	405	122
SG07	Ø350	Ø325	Ø230 (f7)	-	Ø295	25	10	-	-	10-Ø16.5	107	Ø90(h6)	170	150	25	95	M20x50	L1	210	-	-	-
																		L2	299	R2	329	225
																		L3	364	R3	381	140
																		L4	417	R4	456	122
SG09	Ø350	Ø350	Ø278 (f7)	Ø225 (f7)	Ø314	-	7	25	74	12-Ø17	144	Ø100(m6)	165	150	28	106.4	M24x50	L1	126	-	-	-
																		L2	215	R2	245	225
																		L3	280	R3	307	140
																		L4	333	R4	372	122
SG10	Ø400	Ø400	Ø340 (f7)	Ø245 (f7)	Ø370	-	15	26	115	15-Ø17	130	Ø110(m6)	210	200	28	116	M24x50	L1	108	R2(B)	315	345
																		L2	244	R2(C)	333	390
																		L3	309	R3	381	140
																		L4	362	R4	401	140

FLANGE MOUNTED (CFL) DIMENSIONS

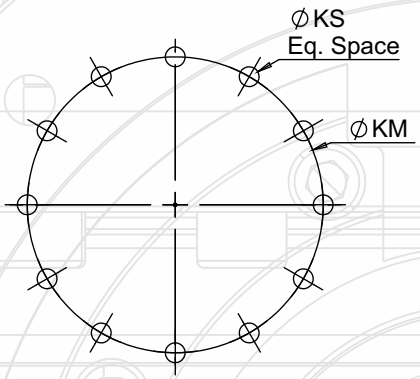
GBX Size	Flange Dimensions											Output Shaft Dimensions						Inline Input (SG--L)		Bevel Input (SG--R)		
	d	KP	KN1	KN2	KM	KB	KC1	KC2	LX	KS	W	D	E	ED	F	DF	DH	Stages	L	Stages	R	'X'
SG11	Ø428	Ø428	Ø358 (f7)	Ø245 (f7)	Ø390	-	12	35	140	24-Ø17	134	Ø120(m6)	210	180	32	127	M24x50	L1	115	R2(B)	340	345
																		L2	248	R2(C)	340	390
																		L3	337	R3	367	225
																		L4	402	R4	429	140
SG13	Ø445	Ø445	Ø385 (f7)	Ø260 (f7)	Ø415	-	11	40	152	30-Ø17	169	Ø140(m6)	200	180	36	148	M24x50	L1	-	R2(B)	384	345
																		L2	304	R2(C)	384	390
																		L3	393	R3	423	225
																		L4	458	R4	485	140
SG14	Ø542	Ø542	Ø460 (f7)	Ø300 (f7)	Ø503	-	12	34	223	20-Ø21	192	Ø160(m6)	240	220	40	169.4	M24x50	L2	362	R3(B)	569	345
																		L3	498	R3(C)	587	390
																		L4	563	R4	635	225
SG15	Ø542	Ø542	Ø460 (f7)	Ø300 (f7)	Ø503	-	12	34	223	20-Ø21	192	Ø160(m6)	240	220	40	169.4	M24x50	L2	386	R3(B)	611	345
																		L3	519	R3(C)	611	390
																		L4	608	R4	638	225
SG16	Ø542	Ø670	Ø580 (f7)	-	Ø325	30	13	-	-	30-Ø22	-	Ø180(m6)	260	240	45	190	4-M16x26 (On 110 PCD)	L2	431	R3(B)	656	345
																		L3	564	R3(C)	656	390
																		L4	653	R4	683	225
SG17	Ø695	Ø695	Ø560 (f7)	-	Ø635	-	20	-	-	24-Ø32	200	Ø200(r6)	260	250	45	210	6-M16x30 (On 140 PCD)	L2	475	R3(B)	107	345
																		L3	622	R3(C)	701	390
																		L4	710	R4	740	225
SG18	Ø695	Ø800	Ø700 (f7)	-	Ø750	35	15	-	-	32-Ø26	-	Ø250(r6)	330	310	56	262	4-M24x41 (On 150 PCD)	L2	547	-	-	-
																		L3	759	R4(B)	1115	345
																		L4	892	R4(C)	1115	390
SG19	Ø940	Ø940	Ø800 (f7)	Ø780 (±2)	Ø880	-	30	145	30	30-Ø33	240	Ø280(h6)	380	350	63	292	12-M20x40 (On 200 PCD)	L2	185	-	-	-
																		L3	780	R4(B)	2350	345
																		L4	913	R4(C)	2370	390
SG21	Ø940	Ø1100	Ø940 (f7)	Ø780 (±2)	Ø1020	50	15	155	15	35-Ø33	185	Ø340(m6)	540	500	80	355	12-M20x40 (On 250 PCD)	L3	904	R4(B)	3070	345
																		L4	1053	R4(C)	3080	390

CFA - Rainforced output shaft with parallel shaft for stirres and mixtures



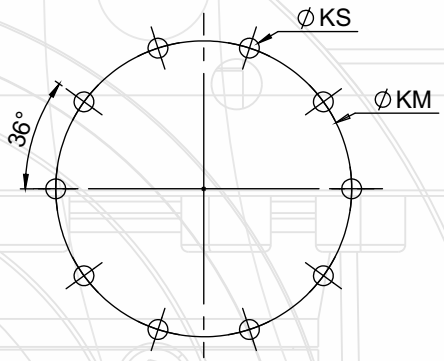
(View Y)

Output Flange Mounting Dimensions for CFA



(View Y)

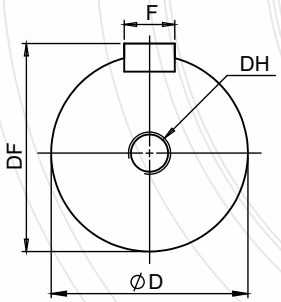
For SG03CFA ~ SG11CFA & SG13CFA ~ SG15CFA



(View Y)

For SG06CFA

Solid Output Shaft for CFA



FOOT MOUNTED (CFA) DIMENSIONS

CFA - Rainforced output shaft with parallel shaft for stirres and mixtures																		
GBX Size	Stages			Output Flange Dimensions										Output Shaft Dimensions				
		L	d	KP	KN1	KN2	KM	KB1	KB2	KC1	KC2	LX	KS	D	E	DF	F	DH
SG03	L1	51	Ø245	Ø290	Ø195 (h7)	Ø180 (h7)	Ø265	21	46	20	29	171	12-Ø13	Ø80 (m6)	170	85	22	M20x50
	L2	104																
	L3	157																
	L4	210																
SG05	L1	69	Ø245	Ø290	Ø195 (h7)	Ø180 (h7)	Ø265	21	46	20	29	171	12-Ø13	Ø80 (m6)	170	85	22	M20x50
	L2	134																
	L3	187																
	L4	240																
SG06	L1	75	Ø294	Ø360	Ø250 (h7)	Ø200 (h7)	Ø325	25	47	15	28	202	10-Ø17	Ø100 (m6)	210	106	28	M24x50
	L2	140																
	L3	193																
	L4	248																
SG07	L1	80	Ø350	Ø420	Ø280 (h7)	Ø250 (h7)	Ø380	30	65	25	30	275	12-Ø17	Ø120 (m6)	210	127	32	M24x50
	L2	169																
	L3	234																
	L4	287																
SG09	L1	102	Ø350	Ø420	Ø280 (h7)	Ø250 (h7)	Ø380	30	65	25	30	275	12-Ø17	Ø120 (m6)	210	127	32	M24x50
	L2	191																
	L3	256																
	L4	309																
SG10	L1	107	Ø400	Ø500	Ø425 (h8)	Ø300 (h8)	Ø460	40	63	20	42	318	12-Ø22	Ø130 (m6)	250	137	32	M24x50
	L2	243																
	L3	308																
	L4	361																
SG11	L1	129	Ø428	Ø500	Ø425 (h8)	Ø300 (h8)	Ø460	40	63	20	42	318	12-Ø22	Ø130 (m6)	250	137	32	M24x50
	L2	262																
	L3	351																
	L4	416																
SG13	L1	158	Ø445	Ø560	Ø400 (h8)	Ø340 (h8)	Ø510	30	90	18	40	385	24-Ø22	Ø150 (m6)	250	158	36	M30x62
	L2	308																
	L3	397																
	L4	462																
SG14	L2	386	Ø542	Ø640	Ø470 (h8)	Ø370 (h8)	Ø600	36	46	30	30	171	24-Ø22	Ø180 (m6)	300	190	45	M30x62
	L3	519																
	L4	608																
SG15	L2	386	Ø542	Ø640	Ø470 (h8)	Ø370 (h8)	Ø500	36	46	30	30	171	24-Ø22	Ø180 (m6)	300	190	45	M30x62
	L3	519																
	L4	608																

WEIGHT

Weight (Kg)			
GBX Size	Stages	CFT	CFL
SG00L	L1	24	21
	L2	28	25
	L3	33	29
	L4	37	33
SG01L	L1	27	24
	L2	32	28
	L3	36	33
	L4	40	37
SG03L	L1	42	37
	L2	46	41
	L3	50	45
	L4	54	49
SG05L	L1	47	42
	L2	54	49
	L3	58	53
	L4	62	57
SG06L	L1	84	73
	L2	93	83
	L3	97	87
	L4	101	91
SG07L	L1	125	110
	L2	138	122
	L3	145	129
	L4	149	133
SG09L	L1	136	120
	L2	148	133
	L3	155	140
	L4	159	144
SG10L	L1	162	141
	L2	194	173
	L3	203	182
	L4	207	186

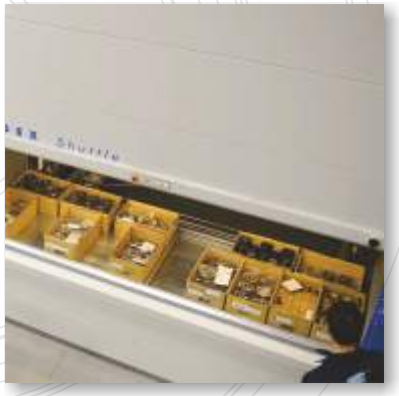
Weight (Kg)			
GBX Size	Stages	CFT	CFL
SG11L	L1	260	187
	L2	306	234
	L3	319	246
	L4	326	253
SG13L	L2	395	301
	L3	407	317
	L4	415	321
SG14L	L2	545	415
	L3	590	460
	L4	600	470
SG15L	L2	608	473
	L3	655	520
	L4	667	532
SG16L	L2	830	610
	L3	870	660
	L4	890	680
SG17L	L2	1120	960
	L3	1180	1030
	L4	1200	1040
SG18L	L2	1300	990
	L3	1660	1350
	L4	1710	1400
SG19L	L2	2180	1870
	L3	2530	2220
	L4	2580	2260
SG21L	L3	3240	2930
	L4	3390	2990

Weight (Kg)			
GBX Size	Stages	CFT	CFL
SG00R	R2	39	36
	R3	43	40
	R4	47	44
SG01R	R2	42	39
	R3	46	43
	R4	50	47
SG03R	R2	62	57
	R3	60	55
	R4	64	59
SG05R	R2	67	62
	R3	68	63
	R4	72	67
SG06R	R2	109	97
	R3	105	94
	R4	98	88
SG07R	R2	177	161
	R3	158	143
	R4	160	144
SG09R	R2	188	172
	R3	170	153
	R4	171	154
SG10R	R2(B)	290	270
	R2(C)	311	290
	R3	217	198
	R4	222	203

Weight (Kg)			
GBX Size	Stages	CFT	CFL
SG11R	R2(B)	395	322
	R2(C)	405	333
	R3	358	286
	R4	340	267
SG13R	R2(B)	468	374
	R2(C)	478	384
	R3	447	353
	R4	428	335
SG14R	R3(B)	720	590
	R3(C)	730	600
	R4	680	550
SG15R	R3(B)	748	613
	R3(C)	759	624
	R4	707	572
SG16R	R3(B)	950	740
	R3(C)	960	750
	R4	930	720
SG17R	R3(B)	1260	1100
	R3(C)	1270	1110
	R4	1230	1080
SG18R	R4(B)	1790	1470
	R4(C)	1800	1485
SG19R	R4(B)	2660	2350
	R4(C)	2680	2370
SG21R	R4(B)	3380	3070
	R4(C)	3390	3080

CMM for Mechanical Inspection

Gear Lead & Profile Tester



KARDEX for Gear Storage

Gear Profile Grinding

Magnifying Glass to Check Gear

Gearbox Machining

All information and data presented in this catalogue have been checked with greatest care. We however do not assume responsible for any unintended errors and ommissions. Our designs are being continuously improved, so please reconfirm specifications and dimensions prior to ordering.

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