Front Cover

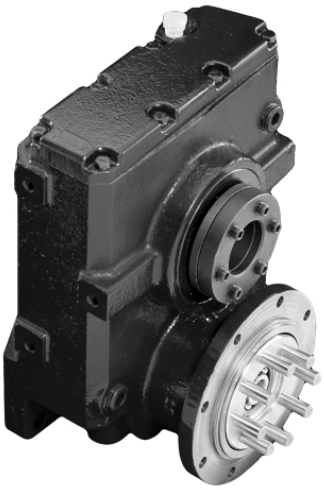
Buddy Box

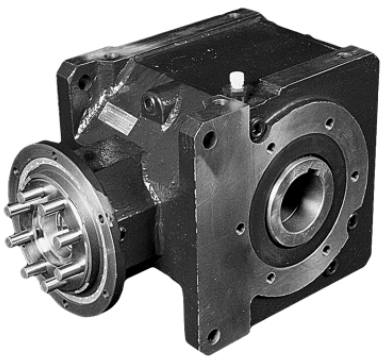
In preparing our new catalogue we have made every effort to present the information in a clear and concise manner. We hope you will find the format to be satisfactory, enabling you to quickly locate any required information. However if you have any suggestions for improvements we would be very pleased to receive them via our representative or direct to SUMITOMO CYCLO EUROPE.

Whilst every care has been taken in preparation of this catalogue, no liability can be accepted for any errors or omissions.

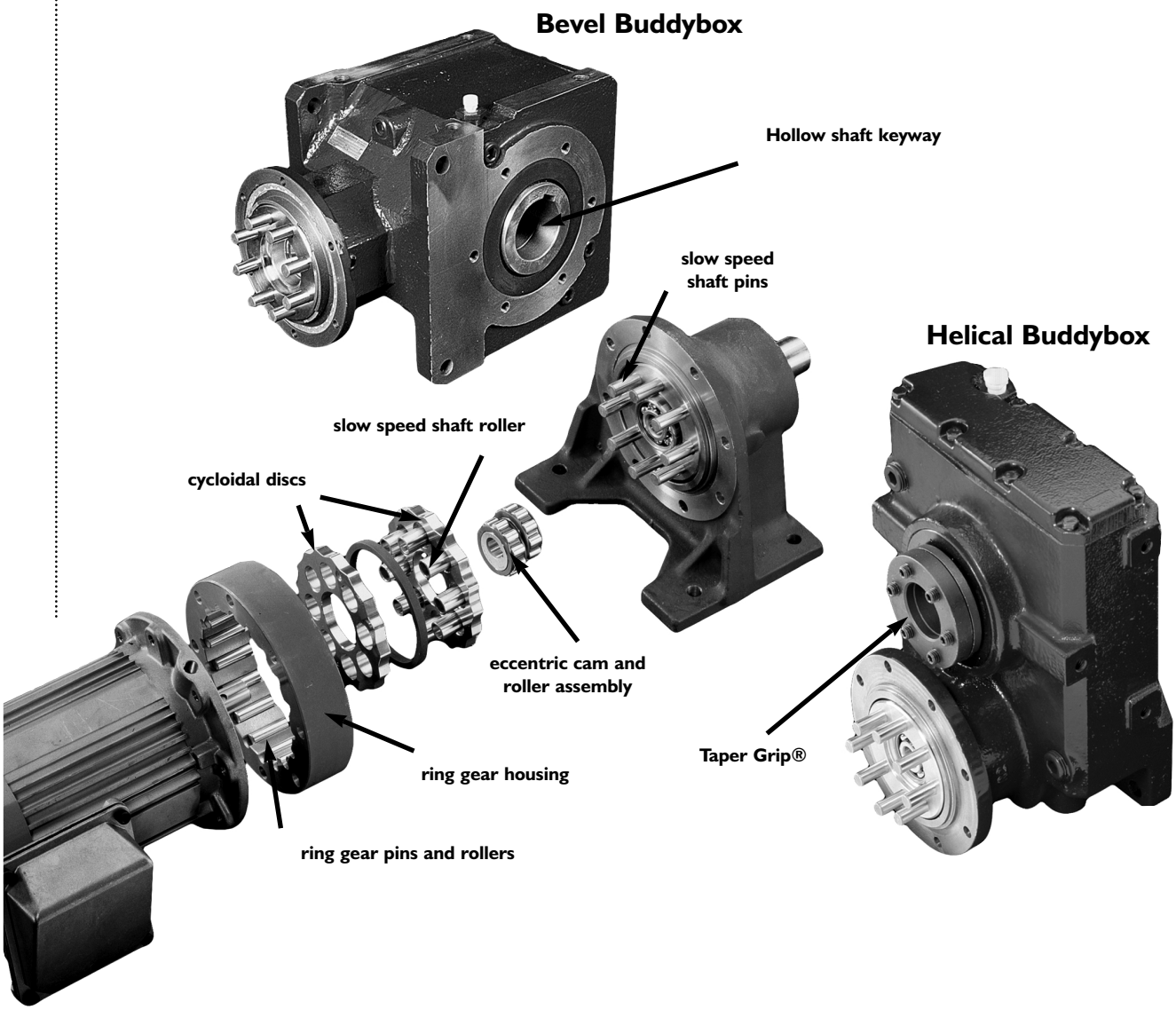
BSI REGISTERED FIRM FM 20793 ISO 9001

Contents





Cyclo Modular System



The Cyclo modular drive system is an In-line concentric gear configuration easily adapted for off-set, parallel and right angle gear reducer applications. It adds extreme benefits of cyclo to the more traditional characteristics of shaft mounted gearboxes.

This high efficient, compact and easy-to assemble configuration, uniquely offers; high ratios in single stage; very high shock load capacity; lower noise and inertia; and above all, a competitively priced solution for any shaft mounted application.

The Buddybox design incorporates the shock load characteristics of the cycloidal reducer with the adaptability of a single stage helical gear or single stage bevel gear, in shaft mount design.

Outstanding reliability

The selection of the Buddybox combinations has been designed to maintain the extremely high overload capacity throughout the drive which for CYCLO reducers have become famous, and this enables CYCLO to extend our standard warranty to 24 months continuous operation.

High Efficiency Even at High Ratios

Buddybox reducers have very low power loss throughout the range, based upon the very high efficiency of the cyclo portion. The gearmotor and reducer design illustrated in this brochure, comprise a standard CYCLO gearmotor or reducer, attached to a 3.5:1 (nominal) ratio helical gear or a 3.5:1 (nominal) ratio bevel gear.

Ease of Installation

Compare the Buddybox shaft mounted types to other shaft mount torque drives. The drive is delivered completely assembled and ready for fitting on the driven shaft.

Easy On-Site Assembly

With other torque arm drives, assembly of the motor, motor platform, pulleys, belts, belt guard, bushing and torque arm is required. With the Buddybox the Taper Grip® bush is already in place and the torque arm only needs fitting.

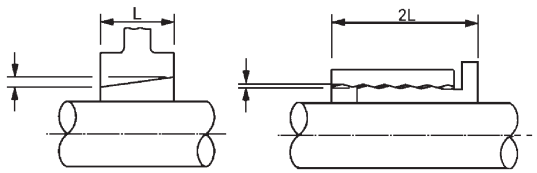
TAPER-GRIP®

The Taper-Grip® system is based on the well known locking capabilities of conventional taper bushings with one very significant difference: The Taper-Grip® bushing has a series of taper surfaces in the form of a continuous helix. The tapers are machined in the hub and on the bushings in the form of a shallow screw thread.

On the Helical Buddybox drive the bush can be fitted from either side of the gearbox, except on sizes D and E.

TAPER-GRIP® Features

- Standard bores require no key or keyway
- Accessible locking arrangement
- Reversible bushing assembly
- Resistant to fretting corrosion
- Easy removal of gear unit



Conventional Taper Bushing Taper-Grip® Bushing

Assembly

After the bushing is screwed into the hollow gear shaft, the reducer can be conveniently positioned on the driven shaft.

When tightened, the outer grip of the bushing is pressed axially against the inner grip of the hollow gear shaft thus generating the clamping force along the whole length of the bushing in contact with the shaft.

Units can be easily installed on existing machine shafts which may already include a keyway, even though **the key will not be required.**

The bushing is manufactured from ductile iron which has similar properties to steel and has a certain degree of self lubrication. This alleviates the problem of fretting corrosion which is the cause of so many problems associated with the disassembly of shaft mount reducers.

Product Liability & Safety

• **NO** Belts	• **NO** Assembly Errors
• **NO** Pulleys	• **NO** Guard
• **NO** Injuries	• **NO** Noise

General Information

General
Selection of the Buddybox should be based on actual power and torque requirements at the output shaft. Unlike some conventional gear reducers, the Buddybox maintains very high efficiency over a wide range of ratios. Correct selection often permits the use of reduced input power requirements without sacrificing torque at the output shaft.

Excessive Overloads
Bevel Buddybox reducers, when used at a Service factor of 1.0, can withstand a momentary peak torque of 200% rated torque (100% overload).

The Helical Buddybox can provide 500% momentary intermittent shock load capacity (only version with hollow shaft and keyway). A warranty of 2 years from date of shipment is possible. For details refer to our standard terms and conditions.

Drive Ratings
Standard drives are designed and built for long, minimum maintenance, 8 hours daily service under conditions of uniform loads. When an application involves more severe conditions, catalogue ratings must be divided by the proper service factors.

Notes to dimension sheets.

Keys and Keyways acc. to DIN 6885 page 1. Tolerances acc. DIN ISO 286 part 2. For tight condition of installation ask SUMITOMO CYCLO EUROPE for not tolerate dimensions.

Service Factor f_{BI}

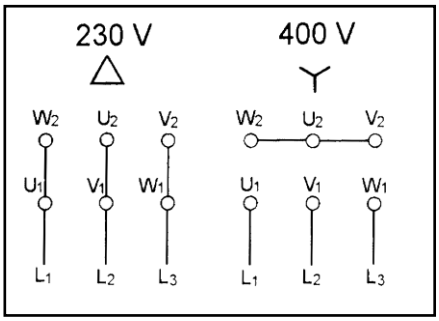
Input	Daily duty	Nature of load of the driven machine		
		uniform	moderate shock	heavy shock
		f_{BI}		
Electric motor	occasional 1/2 hour per day	* 0.50	* 0.80	1.20
	intermittent 3 hours per day	* 0.80	1.00	1.35
	up to 8 hours per day	1.00	1.20	1.50
	up to 16 hours per day	1.10	1.28	1.55
	24 hours per day	1.20	1.35	1.60

* max. momentary or starting torque must not exceed 200% of speed reducer rating (service factor = 1.0). Time specified for occasional and intermittent service refers to total operating time per day.

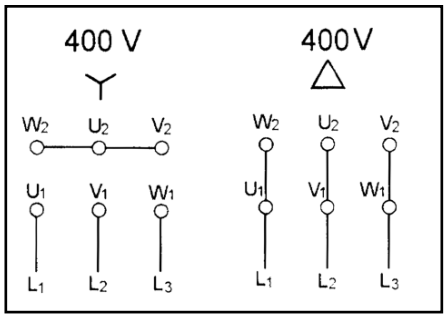
General Information

Gearmotors

0,12 kW - 4 kW
230 V³/400 V Y ± 10%, 50 Hz
277 V³/480 V Y ± 10%, 60 Hz



5,5 kW - 22 kW
400 V ³ Y ± 10%, 50 Hz
480 V ³ Y ± 10%, 60 Hz



Standard Motor Specification

P_M	=	motor power [kW]
n_M	=	motor speed [min^{-1}]
I_N	=	rated current [A]
cosφ	=	power factor
η	=	efficiency [%]
M_A/M_N	=	starting torque/rated torque [%]
M_K/M_N	=	breakdown torque/rated torque [%]
I_A/I_N	=	starting current/rated current [%]

P_M kW x P	Motor Size	I_N (A) 230 V 50 Hz	I_N (A) 400 V 50 Hz	n_M min^{-1}	cosφ	η %	M_A/M_N %	M_K/M_N %	I_A/I_N %
0.12 x 4	F 63S	0.7	0.39	1400	0.73	62	200	200	330
0.18 x 4	F 63M	1.0	0.58	1420	0.68	66	260	260	400
0.25 x 4	F 63M	1.2	0.7	1380	0.76	68	220	200	360
0.37 x 4	F 71M	2.1	1.2	1405	0.67	67	250	240	380
0.55 x 4	F 80S	2.5	1.4	1385	0.79	70	230	220	390
0.75 x 4	F 80M	3.3	1.9	1395	0.79	72	210	230	420
1.1 x 4	F 90S	4.6	2.6	1410	0.79	77	220	270	500
1.5 x 4	F 90L	6.1	3.5	1400	0.81	77	210	250	480
2.2 x 4	F 100L	8.3	4.8	1405	0.82	81	250	270	530
3.0 x 4	F 112S	10.9	6.3	1425	0.84	83	240	290	590
4.0 x 4	F 112 M	14.1	8.1	1420	0.85	84	230	290	590
5.5 x 4	F 132 S	-	11	1430	0.85	85	260	320	670
7.5 x 4	F 132M	-	14.4	1450	0.86	87	260	320	690
11 x 4	F 160M	-	20.6	1450	0.87	88	280	330	714
15 x 4	G 160L	-	27.4	1460	0.88	90	270	270	660
18.5 x 4	F 180MG	-	33.5	1475	0.87	92	310	290	780
22 x 4	F 180 MG	-	39.7	1470	0.88	91	260	250	660

Standard brakemotor specification

The brake on CYCLO gearmotors operates on a 90V D.C. by a rectifier mounted on the motor terminal box. The standard brakemotor input voltage is 230V (up to 4 kW) or 400V (5.5 kW and above).

The standard brakemotor when used for outdoor installations must be protected with some type of covering. Such coverings are available from the factory, please inquire when ordering.

P_1 [kW]	Size	Braking Torque [Nm]	max braking torque [Nm]	Brake delay time		Inertia J [10^{-4} kg m^2]	Brake coil current	
				Standard [sec]	fast [sec]		230V 50Hz [A]	400V 50Hz [A]
0,12	FB-01A	1	1,5	0,15 - 0,2	0,015 - 0,12	3,5	0,08	
0,18	FB-02A	2	4	0,15 - 0,2	0,015 - 0,12	5,5	0,1	
0,25	FB-02A	2	4	0,15 - 0,2	0,015 - 0,12	5,5	0,1	
0,37	FB-05A	4	4	0,1 - 0,15	0,01 - 0,015	7	0,1	
0,55	FB-1B	8	11	0,2 - 0,3	0,01 - 0,02	10	0,1	
0,75	FB-1B	8	11	0,2 - 0,3	0,01 - 0,02	13,0	0,1	
1,1	FB-2B	16	21	0,2 - 0,3	0,01 - 0,02	21	0,3	
1,5	FB-2B	16	21	0,2 - 0,3	0,01 - 0,02	24	0,3	
2,2	FB-3B	23	31	0,3 - 0,4	0,01 - 0,02	37	0,3	
3,0	FB-5B	29	52	0,4 - 0,5	0,01 - 0,02	82	0,6	
4,0	FB-5B	39	52	0,4 - 0,5	0,01 - 0,02	96	0,6	
5,5	FB-8B	57	77	0,3 - 0,4	0,01 - 0,02	125		0,3
7,5	FB-10B	77	103	0,7 - 0,8	0,03 - 0,04	303		0,4
11	FB-15B	113	151	0,5 - 0,6	0,03 - 0,04	410		0,4
15	CMB-20	98	108	0,6 - 0,8	0,1 - 0,15	1328		1,6

NOTE: The brake torque can be field adjusted within a limited range. If your require larger or smaller brake torque than those listed, please advise the factory when ordering.

Characteristics of the FB Brakes

- Easy to adjust
- Low inertia
- Long life
- Low maintenance
- Enclosure IP 44 (IP 54, 55 ,65 upon request)
- One touch brake release lever for FB1B - FB15B upon request

Helical Buddybox Type Designation

Helical Speed Reducer

Shaft position
H = horizontal
V = vertical

Mounting position
Y = hollow shaft keyway, Taper Grip®
H = solid shaft
F = flange mount keyway, Taper Grip®
V = flange mount solid shaft

Input connection
M = integrated motor
- = free input shaft
X = motor adapter type X
XM = with motor
J = motor adapter type J
JM = with motor

- = standard design
S = special design

Symbol for input power 4 pole motor

012	0,12 kW	4	3,0 kW
018	0,18 kW	6	4,0 kW
03	0,25 kW	8	5,5 kW
04	0,37 kW	10	7,5 kW
08	0,55 kW	15	11,0 kW
1	0,75 kW	20	15,0 kW
1H	1,1 kW	25	18,5 kW
2	1,5 kW	30	22,0 kW
3	2,2 kW		

Size

helical size	CYCLO size
AA	4090
AA	4095
A	4100
A	4105
B	4110
B	4115
B	4125
C	4145
C	4155
D	4160
D	4165
E	4170
E	4175

Input elements see dimension sheets

Nominal reduction ratio see page 13

- = without brake
B = with brake

Motor specification
AV = Inverter duty motor

Installation position (see page 13)
Y1 = bottom
Y2 = left
Y3 = top
Y4 = right
Y5 = input above
Y6 = input below

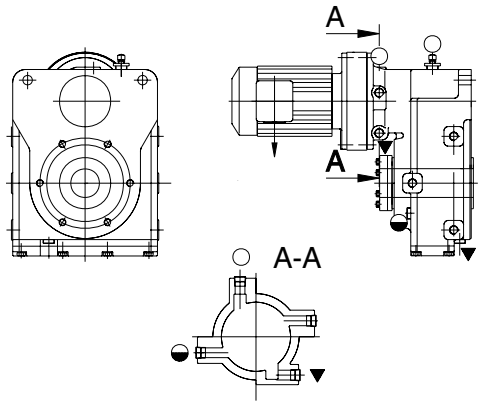
Shaft specification

	output shaft		only free input shaft version
	hollow	solid	
E	keyway	keyway	DIN k6 (- 4125)
G	Taper Grip® (metric bore)	-	DIN k6 (- 4125)
Y	Taper Grip® (inch bore)	-	inch

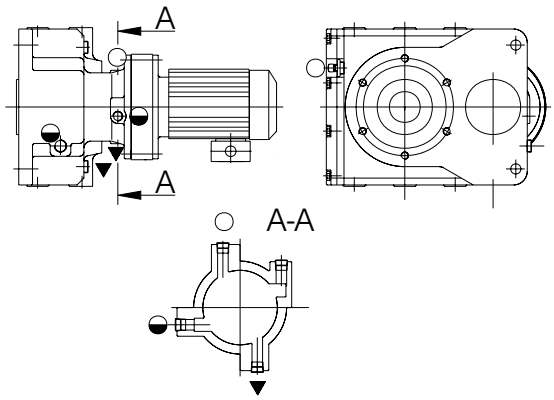
Helical Buddybox Type Designation

helical portion	i_G	i_C	3	5	6	8	11	13	15	17	21	25	29	35	43	51	59	71	87
			i_T (i_Gxi_C) Nominal total ratio																
			CYCLO gear portion																
AA, D, E	3.467	$i_{T\ nominal}$	10.5	17.5	21	28	39	46	53	60	74	88	102	123	151	179	207	249	305
		$i_{T\ exact}$	10.40	17.34	20.80	27.74	38.14	45.07	52.01	58.94	72.81	86.68	100.54	121.35	149.08	176.82	204.55	246.16	301.63
A, B, C	3.500	$i_{T\ nominal}$	10.5	17.5	21	28	39	46	53	60	74	88	102	123	151	179	207	249	305
		$i_{T\ exact}$	10.50	17.50	21.00	28.00	38.50	45.50	52.50	59.50	73.50	87.50	101.50	122.50	150.50	178.50	206.50	248.50	304.50
	i_G	i_C	104	121	143	165	195	231	273	319	357	377	425	473	525	559	595	649	731
AA, D, E	3.467	$i_{T\ nominal}$	361	420	496	573	677	801	947	1106	1238	1308	1474	1640	1821	1939	2063	2251	2535
		$i_{T\ exact}$	360.57	419.51	495.78	572.06	676.07	800.88	946.49	1105.97	1237.72	1307.06	1473.48	1639.89	1820.18	1938.05	2062.87	2250.08	2534.38
A, B, C	3.500	$i_{T\ nominal}$	364	424	501	578	683	809	956	1117	1250	1320	1488	1656	1874	1957	2083	2272	2559
		$i_{T\ exact}$	364.00	423.50	500.50	577.50	682.50	808.50	955.50	1116.50	1249.50	1319.50	1487.50	1655.50	1837.50	1956.50	2082.50	2271.50	2558.50

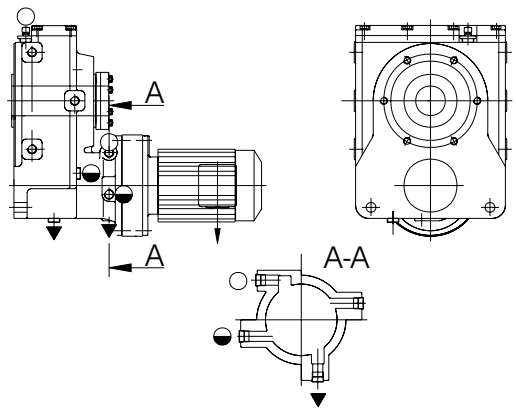
Y1



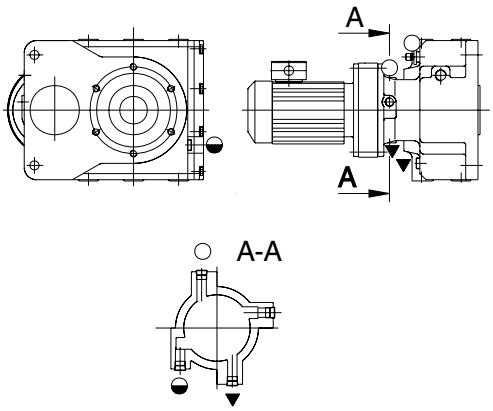
Y2



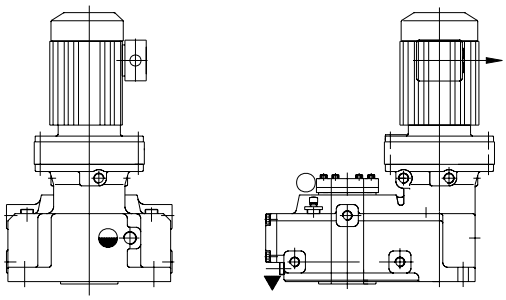
Y3



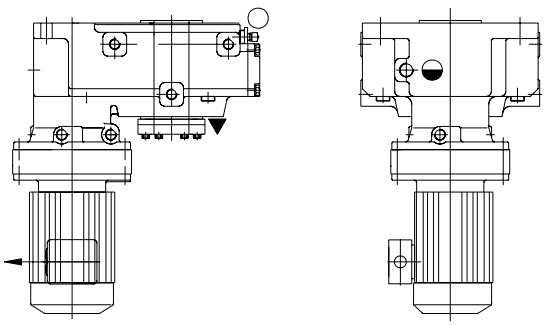
Y4



Y5



Y6



Oil inlet

Oil level (Overflow hole)

Oil outlet

1. Cyclo Drive for Y5 and Y6 is grease lubricated, so oil supply and discharge are unnecessary.

2. Cable outlet

0.12kW motor type F63S/4 (B) (n1 = 1400 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
0.55	1744	1.94	012	C4145DC	2559
0.62	1548	2.18	012	C4145DC	2272
0.67	1419	1.17	012	B4115DA	2083
0.72	1334	1.24	012	B4115DA	1957
0.76	1253	1.32	012	B4115DA	1838
0.85	1128	1.17	012	B4110DA	1656
0.94	1014	1.32	012	B4110DA	1488
1.06	900	1.48	012	B4110DA	1320
1.12	852	1.56	012	B4110DA	1250
1.25	761	1.71	012	B4110DA	1117
1.46	651	1.24	012	A4105DA	956
1.73	551	1.17	012	A4100DA	809
2.05	465	1.40	012	A4100DA	683
2.42	394	1.71	012	A4100DA	578
2.79	341	1.94	012	A4100DA	501
3.30	289	1.17	012	AA4090DA	424
3.85	248	1.32	012	AA4090DA	364
4.59	225	1.00	012	AA4090	305
4.59	225	1.83	012	AA4095	305
5.62	184	1.19	012	AA4090	249
5.62	184	2.08	012	AA4095	249
6.76	153	1.61	012	AA4090	207
7.82	132	1.71	012	AA4090	179
9.27	111	2.30	012	AA4090	151
80.00	13	22.90	012	AA4105	17.5
133.33	8	22.90	012	AA4105	10.5

0.18kW motor type F63M/4 (B) (n1 = 1420 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
0.55	2579	1.31	018	C4145DC	2559
0.63	2290	1.47	018	C4145DC	2272
0.68	2099	1.58	018	C4145DC	2083
0.73	1972	1.68	018	C4145DC	1957
0.77	1852	1.79	018	C4145DC	1838
0.86	1669	2.00	018	C4145DC	1656
0.95	1500	1.10	018	B4115DA	1488
1.08	1330	1.26	018	B4115DA	1320
1.14	1260	1.31	018	B4115DA	1250
1.27	1126	1.16	018	B4110DA	1117
1.49	963	1.37	018	B4110DA	956
1.76	815	1.63	018	B4110DA	809
2.08	688	1.21	018	B4105DA	683
2.46	583	1.16	018	B4100DA	578
2.83	505	1.31	018	B4100DA	501
3.35	427	1.58	018	B4100DA	424
3.90	367	1.79	018	B4100DA	364
4.66	332	0.65	018	AA4090	305
4.66	332	1.24	018	AA4095	305
4.66	332	1.86	018	A4100	305
5.70	271	0.79	018	AA4090	249
5.70	271	1.38	018	AA4095	249
5.70	271	1.86	018	A4100	249
6.86	226	1.07	018	AA4090	207
6.86	226	1.76	018	AA4095	207
7.93	195	1.14	018	AA4090	179
7.93	195	1.95	018	AA4095	179
9.40	165	1.54	018	AA4090	151
11.54	134	2.14	018	AA4090	123
13.92	111	2.14	018	AA4090	102
16.14	96	2.49	018	AA4090	88
81.14	19	15.28	018	AA4105	17.5
135.24	11	15.28	018	AA4105	10.5

0.25kW motor type F63M/4 (B) (n1 = 1380 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
0.54	3686	1.40	03	D4160DB	2559
0.61	3272	1.58	03	D4160DB	2272
0.66	3000	1.10	03	C4145DC	2083
0.71	2819	1.18	03	C4145DC	1957
0.75	2647	1.25	03	C4145DC	1838
0.83	2385	1.40	03	C4145DC	1656
0.93	2143	1.55	03	C4145DC	1488
1.05	1901	1.77	03	C4145DC	1320
1.10	1800	1.84	03	C4145DC	1250
1.24	1609	2.06	03	C4145DC	1117
1.44	1377	1.21	03	B4115DA	956
1.71	1165	1.14	03	B4110DA	809
2.02	984	1.36	03	B4110DA	683
2.39	832	1.58	03	B4110DB	578
2.75	722	1.84	03	B4110DB	501
3.25	611	1.10	03	A4100DA	424
3.79	524	1.25	03	A4100DA	364
4.52	475	0.87	03	AA4095	305
4.52	475	1.34	03	A4100	305
4.52	475	1.75	03	A4105	305
5.54	388	1.00	03	AA4095	249
5.54	388	1.34	03	A4100	249
5.54	388	1.91	03	A4105	249
6.67	322	0.77	03	AA4090	207
6.67	322	1.27	03	A4095	207
6.67	322	1.58	03	A4100	207
6.70	322	2.31	03	A4105	207
7.71	279	0.82	03	AA4090	179
7.71	279	1.40	03	AA4095	179
7.71	279	1.85	03	A4100	179
9.14	235	1.11	03	AA4090	151
9.14	235	1.75	03	AA4095	151
11.22	192	1.54	03	AA4090	123
11.22	192	2.15	03	AA4095	123
13.53	159	1.54	03	AA4090	102
13.53	159	2.59	03	AA4095	102
15.68	137	1.79	03	AA4090	88
18.65	115	1.85	03	AA4090	74
23.00	93	2.95	03	AA4090	60
26.04	83	2.95	03	AA4090	53
30.00	72	2.95	03	AA4090	46
35.38	61	2.95	03	AA4090	39
49.29	44	2.95	03	AA4090	28
65.71	33	2.95	03	AA4090	21
78.86	27	11.00	03	A4105	17.5
131.43	16	11.00	03	A4105	10.5

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y5, Y6 position ratings.

0.37kW motor type F71M/4 (B) (n1 = 1405 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
0.55	5358	1.44	04	E4170DC	2559
0.62	4757	1.22	04	D4165DB	2272
0.67	4361	1.19	04	D4160DB	2083
0.72	4097	1.27	04	D4160DB	1957
0.76	3848	1.34	04	D4160DB	1838
0.85	3467	1.49	04	D4160DB	1656
0.94	3115	1.67	04	D4160DB	1488
1.06	2764	1.22	04	C4145DC	1320
1.12	2617	1.27	04	C4145DC	1250
1.26	2339	1.42	04	C4145DC	1117
1.47	2002	1.67	04	C4145DC	956
1.74	1694	1.97	04	C4145DC	809
2.06	1430	1.16	04	B4115DB	683
2.43	1210	1.39	04	B4115DB	578
2.80	1049	1.27	04	B4110DB	501
3.31	888	1.49	04	B4110DB	424
3.86	762	1.75	04	B4110DB	364
4.59	691	0.91	04	A4100	305
4.59	691	1.25	04	A4105	305
4.59	691	1.68	04	A4110	305
5.62	564	0.91	04	A4100	249
5.62	564	1.29	04	A4105	249
5.62	564	1.91	04	B4110	249
6.76	469	0.86	04	AA4095	207
6.76	469	1.07	04	A4100	207
6.76	469	1.58	04	A4105	207
6.76	469	2.58	04	B4110	207
7.82	405	0.95	04	AA4095	179
7.82	405	1.25	04	A4100	179
7.82	405	1.74	04	A4105	179
9.27	342	0.75	04	AA4090	151
9.27	342	1.27	04	AA4095	151
9.27	342	1.59	04	A4100	151
9.27	342	2.41	04	A4105	151
11.38	279	1.04	04	AA4090	123
11.38	279	1.51	04	AA4095	123
11.38	279	1.70	04	A4100	123
13.73	231	1.04	04	AA4090	102
13.73	231	1.75	04	AA4095	102
15.91	199	1.21	04	AA4090	88
15.91	199	1.94	04	AA4095	88
18.92	168	1.25	04	AA4090	74
18.92	168	2.54	04	AA4095	74
23.33	136	1.99	04	AA4090	60
26.42	120	1.99	04	AA4090	53
30.43	104	1.99	04	AA4090	46
35.90	88	1.99	04	AA4090	39
50.00	63	1.99	04	AA4090	28
66.67	48	1.99	04	AA4090	21
80.29	39	7.43	04	A4105	17.5
133.81	24	7.43	04	A4105	10.5

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y5, Y6 position ratings.

0.55kW motor type F80S/4 (B) (n1 = 1385 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
0.61	7173	1.12	08	E4175DC	2272
0.66	6576	1.18	08	E4170DC	2083
0.71	6179	1.24	08	E4170DC	1957
0.75	5803	1.33	08	E4170DC	1838
0.84	5228	1.11	08	D4165DB	1656
0.93	4698	1.11	08	D4160DB	1488
1.05	4167	1.24	08	D4160DB	1320
1.11	3946	1.31	08	D4160DB	1250
1.24	3527	1.46	08	D4160DB	1117
1.45	3018	1.11	08	C4145DC	956
1.71	2554	1.31	08	C4145DC	809
2.03	2156	1.54	08	C4145DC	683
2.40	1825	1.83	08	C4145DC	578
2.76	1582	2.10	08	C4145DC	501
3.27	1339	1.24	08	B4115DB	424
3.80	1149	1.16	08	B4110DB	364
4.54	1042	0.80	08	A4105	305
4.54	1042	1.13	08	B4110	305
4.54	1042	1.60	08	B4115	305
5.56	850	0.87	08	A4105	249
5.56	850	1.28	08	B4110	249
5.56	850	1.70	08	B4115	249
6.69	707	0.72	08	A4100	207
6.69	707	1.06	08	A4105	207
6.69	707	1.73	08	B4110	207
7.74	611	0.84	08	B4100	179
7.74	611	1.17	08	B4105	179
7.74	611	1.87	08	B4110	179
9.17	516	0.80	08	AA4095	151
9.17	516	1.07	08	A4100	151
9.17	516	1.62	08	A4105	151
11.26	420	0.98	08	AA4095	123
11.26	420	1.14	08	A4100	123
11.26	420	1.79	08	A4105	123
13.58	348	0.70	08	AA4090	102
13.58	348	1.18	08	AA4095	102
13.58	348	1.68	08	A4100	102
15.74	301	0.81	08	AA4090	88
15.74	301	1.30	08	AA4095	88
15.74	301	1.91	08	A4100	88
18.72	253	0.84	08	AA4090	74
18.72	253	1.63	08	AA4095	74
23.08	205	1.34	08	AA4090	60
23.08	205	1.89	08	AA4095	60
26.13	181	1.34	08	AA4090	53
26.13	181	2.02	08	AA4095	53
30.11	157	1.34	08	AA4090	46
30.11	157	2.12	08	AA4095	46
35.51	133	1.34	08	AA4090	39
35.51	133	2.14	08	AA4095	39
49.46	96	1.34	08	AA4090	28
49.46	96	2.36	08	AA4095	28
65.95	72	1.34	08	AA4090	21
65.95	72	2.36	08	AA4095	21
79.14	59	5.00	08	A4105	17.5
131.91	36	5.00	08	A4105	10.5

0.75kW motor type F80M/4 (B) (n1 = 1395 min-1)					
n2	M2mot Nm		Motor	Size	Ratio
0.84	7078	1.14	1	E4170DC	1656
0.94	6360	1.20	1	E4170DC	1488
1.06	5642	1.36	1	E4170DC	1320
1.12	5343	1.44	1	E4170DC	1250
1.25	4774	1.22	1	D4160DB	1117
1.46	4086	1.26	1	D4160DB	956
1.72	3458	1.50	1	D4160DB	809
2.04	2919	1.14	1	C4145DC	683
2.41	2471	1.35	1	C4145DC	578
2.78	2141	1.55	1	C4145DC	501
3.29	1812	1.84	1	C4145DC	424
3.83	1556	2.15	1	C4145DC	364
4.57	1410	0.83	1	B4110	305
4.57	1410	1.18	1	B4115	305
4.60	1410	2.36	1	C4145	305
5.60	1151	0.94	1	B4110	249
5.60	1151	1.25	1	B4115	249
5.60	1151	2.70	1	C4145	249
6.74	957	0.78	1	A4105	207
6.74	957	1.27	1	B4110	207
6.74	957	1.74	1	B4115	207
7.79	828	0.86	1	A4105	179
7.79	828	1.37	1	B4110	179
7.79	828	2.01	1	B4115	179
9.24	698	0.78	1	A4100	151
9.24	698	1.19	1	A4105	151
9.24	698	1.63	1	B4110	151
11.34	569	0.84	1	A4100	123
11.34	569	1.32	1	A4105	123
11.34	569	2.01	1	B4110	123
13.68	472	0.86	1	AA4095	102
13.68	472	1.23	1	A4100	102
13.68	472	1.75	1	A4105	102
15.85	407	0.96	1	AA4095	88
15.85	407	1.40	1	A4100	88
15.85	407	2.00	1	A4105	88
18.85	342	0.62	1	AA4090	74
18.85	342	1.20	1	AA4095	74
18.85	342	1.68	1	A4100	74
23.25	277	1.00	1	AA4090	60
23.25	277	1.39	1	AA4095	60
23.25	277	1.68	1	A4100	60
26.32	245	1.00	1	AA4090	53
26.32	245	1.48	1	AA4095	53
26.32	245	1.85	1	A4100	53
30.33	213	1.00	1	AA4090	46
30.33	213	1.55	1	AA4095	46
30.33	213	1.87	1	A4100	46
35.77	180	1.00	1	AA4090	39
35.77	180	1.57	1	AA4095	39
35.77	180	2.18	1	A4100	39
49.82	129	1.00	1	AA4090	28
49.82	129	1.73	1	AA4095	28
66.43	97	1.00	1	AA4090	21
66.43	97	1.73	1	AA4095	21
79.71	80	3.67	1	A4105	17.5
132.86	48	3.67	1	A4105	10.5

1.1kW motor type F90S/4 (B) (n1 = 1410 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
1.26	6928	1.11	1H	E4170DC	1117
1.47	5930	1.29	1H	E4170DC	956
1.74	5018	1.15	1H	D4165DB	809
2.06	4236	1.22	1H	D4160DB	683
2.44	3585	1.44	1H	D4160DB	578
2.81	3107	1.67	1H	D4160DB	501
3.33	2630	1.26	1H	C4145DC	424
3.87	2258	1.48	1H	C4145DC	364
4.62	2046	0.81	1H	B4115	305
4.62	2046	1.63	1H	C4145	305
5.66	1670	0.85	1H	B4115	249
5.66	1670	1.84	1H	C4145	249
6.81	1389	0.87	1H	B4110	207
6.81	1389	1.20	1H	B4115	207
6.80	1389	2.40	1H	C4145	207
7.88	1201	0.94	1H	B4110	179
7.88	1201	1.39	1H	B4115	179
7.90	1201	2.58	1H	C4145	179
9.34	1013	0.81	1H	A4105	151
9.34	1013	1.11	1H	B4110	151
9.34	1013	1.64	1H	B4115	151
11.46	825	0.90	1H	A4105	123
11.46	825	1.37	1H	B4110	123
11.46	825	2.02	1H	B4115	123
13.82	684	0.84	1H	A4100	102
13.82	684	1.19	1H	A4105	102
13.82	684	1.64	1H	B4110	102
16.02	590	1.00	1H	A4100	88
16.02	590	1.36	1H	A4105	88
16.02	590	1.86	1H	B4110	88
19.05	496	0.83	1H	AA4095	74
19.05	496	1.14	1H	A4100	74
19.05	496	1.68	1H	A4105	74
23.50	403	0.95	1H	AA4095	60
23.50	403	1.14	1H	A4100	60
23.50	403	2.00	1H	A4105	60
26.60	356	1.01	1H	AA4095	53
26.60	356	1.26	1H	A4100	53
26.60	356	2.34	1H	A4105	53
30.65	309	1.06	1H	AA4095	46
30.65	309	1.27	1H	A4100	46
30.65	309	2.28	1H	A4105	46
36.15	262	1.07	1H	AA4095	39
36.15	262	1.49	1H	A4100	39
36.15	262	2.38	1H	A4105	39
50.36	188	1.18	1H	AA4095	28
50.36	188	1.60	1H	A4100	28
67.14	141	1.18	1H	AA4095	21
67.14	141	1.60	1H	A4100	21
80.57	117	2.50	1H	A4105	17.5
134.29	70	2.50	1H	A4105	10.5

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y5, Y6 position ratings.

1.5kW motor type F90L/4 (B) (n1 = 1400 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
1.73	6891	1.11	2	E4170DC	809
2.05	5818	1.32	2	E4170DC	683
2.42	4924	1.18	2	D4165DB	578
2.79	4268	1.21	2	D4160DB	501
3.30	3612	1.43	2	D4160DB	424
3.85	3101	1.67	2	D4160DB	364
4.59	2810	1.19	2	C4145	305
4.59	2810	1.62	2	D4160	305
5.62	2294	1.35	2	C4145	249
5.62	2294	1.45	2	C4155	249
5.62	2294	2.06	2	D4160	249
6.76	1907	0.87	2	B4115	207
6.76	1907	1.75	2	C4145	207
7.82	1649	1.01	2	B4115	179
7.82	1649	2.00	2	C4145	179
9.27	1391	0.82	2	B4110	151
9.27	1391	1.20	2	B4115	151
9.30	1391	2.03	2	C4145	151
11.38	1133	1.01	2	B4110	123
11.38	1133	1.47	2	B4115	123
11.40	1133	2.94	2	C4145	123
13.73	940	0.87	2	A4105	102
13.73	940	1.20	2	B4110	102
13.73	940	1.77	2	B4115	102
15.91	811	1.00	2	A4105	88
15.91	811	1.37	2	B4110	88
15.91	811	2.05	2	B4115	88
18.92	682	0.84	2	A4100	74
18.92	682	1.22	2	A4105	74
18.92	682	1.90	2	B4110	74
23.33	553	0.84	2	A4100	60
23.33	553	1.47	2	A4105	60
23.33	553	2.01	2	B4110	60
26.42	488	0.93	2	A4100	53
26.42	488	1.71	2	A4105	53
30.43	424	0.93	2	A4100	46
30.43	424	1.67	2	A4105	46
35.90	359	1.09	2	A4100	39
35.90	359	1.75	2	A4105	39
50.00	258	1.17	2	A4100	28
50.00	258	1.75	2	A4105	28
66.67	193	1.17	2	A4100	21
66.67	193	1.75	2	A4105	21
80.29	160	1.83	2	A4105	17.5
133.81	96	1.83	2	A4105	10.5

2.2kW motor type F100L/4 (B) (n1 = 1405 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
2.43	7196	1.12	3	E4175DC	578
2.80	6237	1.23	3	E4170DC	501
3.31	5278	1.46	3	D4160DB	424
3.86	4531	1.14	3	D4160DB	364
4.61	4107	0.81	3	C4145	305
4.61	4107	1.10	3	D4160	305
4.61	4107	1.41	3	D4165	305
5.64	3353	0.92	3	D4145	249
5.64	3353	0.99	3	D4155	249
5.64	3353	1.41	3	D4160	249
5.64	3353	1.72	3	D4165	249
6.79	2787	1.20	3	C4145	207
6.79	2787	1.60	3	D4160	207
7.85	2410	1.36	3	C4145	179
7.85	2410	1.38	3	C4155	179
7.85	2410	1.87	3	D4160	179
9.30	2033	0.82	3	B4115	151
9.30	2033	1.39	3	C4145	151
9.30	2033	1.64	3	C4155	151
11.42	1656	1.01	3	B4115	123
11.42	1656	2.01	3	C4145	123
13.77	1373	0.82	3	B4110	102
13.77	1373	1.21	3	B4115	102
13.80	1373	2.16	3	C4145	102
15.97	1185	0.93	3	B4110	88
15.97	1185	1.41	3	B4115	88
16.00	1185	2.59	3	C4145	88
18.99	996	0.84	3	A4105	74
18.99	996	1.30	3	B4110	74
18.99	996	1.67	3	B4115	74
23.42	808	1.00	3	A4105	60
23.42	808	1.37	3	B4110	60
23.42	808	2.06	3	B4115	60
26.51	714	1.17	3	A4105	53
26.51	714	1.64	3	B4110	53
30.54	619	1.14	3	A4105	46
30.54	619	1.64	3	B4110	46
36.03	525	1.19	3	A4105	39
36.03	525	1.68	3	B4110	39
50.18	377	0.80	3	A4100	28
50.18	377	1.19	3	A4105	28
50.18	377	1.68	3	B4110	28
66.90	283	0.80	3	A4100	21
66.90	283	1.19	3	A4105	21
66.90	283	1.68	3	B4110	21
80.29	233951	1.25	3	A4105	17.5
80.29	233951	2.30	3	B4115	17.5
133.81	140	1.25	3	A4105	10.5
133.81	140	2.30	3	B4115	10.5

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y5, Y6 position ratings.

3kW motor type F112S/4 (B) (n1 = 1425 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
3.36	7097	1.14	4	E4175DC	424
3.91	6092	1.26	4	E4170DC	364
4.67	5522	0.81	4	D4160	305
4.67	5522	1.05	4	D4165	305
4.67	5522	1.30	4	E4170	305
4.67	5522	1.46	4	E4175	305
5.72	4508	1.03	4	D4160	249
5.72	4508	1.28	4	D4165	249
5.72	4508	1.41	4	E4170	249
5.72	4508	1.79	4	E4175	249
6.88	3748	0.89	4	C4145	207
6.88	3748	1.18	4	D4160	207
6.88	3748	1.54	4	D4165	207
6.88	3748	1.75	4	E4170	207
7.96	3241	1.00	4	C4145	179
7.96	3241	1.03	4	C4155	179
7.96	3241	1.37	4	D4160	179
7.96	3241	1.78	4	D4165	179
9.44	2734	1.02	4	C4145	151
9.44	2734	1.22	4	C4155	151
9.44	2734	1.75	4	D4160	151
11.59	2227	1.50	4	C4145	123
11.59	2227	1.75	4	D4160	123
13.97	1847	0.90	4	B4115	102
13.97	1847	1.58	4	C4145	102
13.97	1847	1.80	4	C4155	102
16.19	1593	1.04	4	B4115	88
16.20	1593	1.92	4	C4145	88
16.20	1593	2.09	4	C4155	88
19.26	1340	0.95	4	B4110	74
19.26	1340	1.24	4	B4115	74
19.30	1340	2.21	4	C4145	74
23.75	1086	1.01	4	B4110	60
23.75	1086	1.51	4	B4115	60
23.75	1086	1.53	4	B4125	60
23.70	1086	2.99	4	C4145	60
26.89	960	1.20	4	B4110	53
26.89	960	1.58	4	B4115	53
26.89	960	1.62	4	B4125	53
30.98	833	1.20	4	B4110	46
30.98	833	1.56	4	B4115	46
30.98	833	1.62	4	B4125	46
36.54	706	1.23	4	B4110	39
36.54	706	1.61	4	B4115	39
50.89	507	1.23	4	B4110	28
50.89	507	1.61	4	B4115	28
67.86	380	1.23	4	B4110	21
67.86	380	1.61	4	B4115	21
81.43	315	0.92	4	A4105	17.5
81.43	315	1.69	4	B4115	17.5
135.71	189	0.92	4	A4105	10.5
135.71	189	1.69	4	B4115	10.5

4kW motor type F112M/4 (B) (n1 = 1420 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
4.66	7388	0.78	6	D4165	305
4.66	7388	1.00	6	E4170	305
4.66	7388	1.09	6	E4175	305
5.70	6032	0.96	6	D4165	249
5.70	6032	1.06	6	E4170	249
5.70	6032	1.34	6	E4175	249
6.86	5014	0.88	6	D4160	207
6.86	5014	1.15	6	D4165	207
6.86	5014	1.31	6	E4170	207
6.86	5014	1.61	6	E4175	207
7.93	4336	1.03	6	D4160	179
7.93	4336	1.33	6	D4165	179
7.93	4336	1.54	6	E4170	179
7.93	4336	1.86	6	E4175	179
9.40	3658	0.91	6	C4155	151
9.40	3658	1.31	6	D4160	151
9.40	3658	1.58	6	D4165	151
9.40	3658	1.80	6	E4170	151
11.54	2980	1.12	6	C4145	123
11.54	2980	1.31	6	D4160	123
11.54	2980	1.94	6	D4165	123
13.92	2471	1.19	6	C4145	102
13.92	2471	1.35	6	C4155	102
13.92	2471	1.79	6	D4160	102
16.14	2132	0.78	6	B4125	88
16.14	2132	1.42	6	C4145	88
16.14	2132	1.56	6	C4155	88
16.10	2132	2.14	6	D4160	88
19.19	1793	0.93	6	B4115	74
19.19	1793	1.64	6	C4145	74
23.67	1453	1.13	6	B4115	60
23.67	1453	1.15	6	B4125	60
23.70	1453	2.23	6	C4145	60
26.79	1284	0.90	6	B4110	53
26.79	1284	1.18	6	B4115	53
26.79	1284	1.21	6	B4125	53
26.80	1284	2.29	6	C4145	53
30.87	1114	0.90	6	B4110	46
30.87	1114	1.17	6	B4115	46
30.87	1114	1.21	6	B4125	46
30.90	1114	2.35	6	C4145	46
36.41	945	0.92	6	B4110	39
36.41	945	1.21	6	B4115	39
36.40	945	1.23	6	B4125	39
36.40	945	2.44	6	C4145	39
50.71	678	0.92	6	B4110	28
50.71	678	1.21	6	B4115	28
50.71	678	1.64	6	B4125	28
67.62	509	0.92	6	B4110	21
67.62	509	1.21	6	B4115	21
67.62	509	1.64	6	B4125	21
81.14	421	1.27	6	B4115	17.5
81.14	421	1.72	6	B4125	17.5
135.24	253	1.27	6	B4115	10.5
	253	1.72	6	B4125	10.5

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y5, Y6 position ratings.

5.5kW motor type F132S/4 (B) (n1 = 1430 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
4.69	10088	0.80	8	E4175	305
5.74	8236	0.98	8	E4175	249
6.91	6847	0.84	8	D4165	207
6.91	6847	1.00	8	E4170	207
6.91	6847	1.18	8	E4175	207
7.99	5920	0.98	8	D4165	179
7.99	5920	1.12	8	E4170	179
7.99	5920	1.37	8	E4175	179
9.47	4994	1.00	8	D4160	151
9.47	4994	1.16	8	D4165	151
9.47	4994	1.30	8	E4170	151
9.47	4994	1.62	8	E4175	151
11.63	4068	0.82	8	C4155	123
11.63	4068	1.00	8	D4160	123
11.63	4068	1.42	8	D4165	123
11.63	4068	1.66	8	E4170	123
14.02	3374	0.86	8	C4145	102
14.02	3374	1.30	8	D4160	102
14.02	3374	1.71	8	D4165	102
16.25	2911	1.03	8	C4145	88
16.25	2911	1.14	8	C4155	88
16.25	2911	1.54	8	D4160	88
16.25	2911	1.99	8	D4165	88
19.32	2448	1.19	8	C4145	74
19.32	2448	1.26	8	C4155	74
19.32	2448	1.91	8	D4160	74
23.83	1985	0.84	8	B4125	60
23.83	1985	1.61	8	C4145	60
26.98	1753	0.88	8	B4125	53
26.98	1753	1.65	8	C4145	53
31.09	1521	0.88	8	B4125	46
31.10	1521	1.72	8	C4145	46
36.67	1290	0.88	8	B4125	39
36.70	1290	1.78	8	C4145	39
51.07	926	1.19	8	B4125	28
51.10	926	2.31	8	C4155	28
68.10	695	1.19	8	B4125	21
68.10	695	2.31	8	C4155	21
81.71	575	1.25	8	B4125	17.5
81.71	575	2.40	8	C4155	17.5
136.19	345	1.25	8	B4125	10.5
136.19	345	2.40	8	C4155	10.5

7.5kW motor type F132M/4 (B) (n1 = 1450 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
7.00	9207	0.88	10	E4175	207
8.10	7962	0.82	10	E4170	179
8.10	7962	1.02	10	E4175	179
9.60	6717	0.86	10	D4165	151
9.60	6717	0.95	10	E4170	151
9.60	6717	1.19	10	E4175	151
11.79	5471	1.06	10	D4165	123
11.79	5471	1.21	10	E4170	123
11.79	5471	1.48	10	E4175	123
14.22	4537	1.00	10	D4160	102
14.22	4537	1.25	10	D4165	102
14.22	4537	1.50	10	E4170	102
14.22	4537	1.78	10	E4175	102
16.48	3914	0.85	10	C4155	88
16.48	3914	1.13	10	D4160	88
16.48	3914	1.48	10	D4165	88
16.48	3914	1.64	10	E4170	88
19.59	3292	0.87	10	C4145	74
19.59	3292	0.92	10	C4155	74
19.59	3292	1.40	10	D4160	74
19.59	3292	1.71	10	D4165	74
24.17	2669	1.18	10	C4145	60
24.17	2669	1.40	10	D4160	60
24.17	2669	1.94	10	D4165	60
27.36	2357	1.21	10	C4145	53
27.36	2357	1.40	10	D4160	53
27.36	2357	1.91	10	D4165	53
31.52	2046	1.24	10	C4145	46
31.52	2046	1.65	10	D4160	46
37.18	1735	1.67	10	C4155	39
51.79	1245	1.67	10	C4155	28
69.05	934	1.67	10	C4155	21
82.86	773	0.92	10	B4125	17.5
82.86	773	1.76	10	C4155	17.5
138.09	464	0.92	10	B4125	10.5
138.09	464	1.76	10	C4155	10.5

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y5, Y6 position ratings.

11kW motor type F160M/4 (B) (n1 = 1450 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
9.60	9851	0.81	15	E4175	151
11.79	8024	0.83	15	E4170	123
11.79	8024	1.01	15	E4175	123
14.22	6654	0.85	15	D4165	102
14.22	6654	1.03	15	E4170	102
14.22	6654	1.22	15	E4175	102
16.48	5741	1.01	15	D4165	88
16.48	5741	1.12	15	E4170	88
16.48	5741	1.36	15	E4175	88
19.59	4828	0.95	15	D4160	74
19.59	4828	1.17	15	D4165	74
19.59	4828	1.30	15	E4170	74
19.59	4828	1.62	15	E4175	74
24.17	3914	0.80	15	C4155	60
24.17	3914	1.00	15	D4160	60
24.17	3914	1.32	15	D4165	60
24.17	3914	1.40	15	E4170	60
24.17	3914	1.70	15	E4175	60
27.36	3458	0.88	15	C4155	53
27.36	3458	1.00	15	D4160	53
27.36	3458	1.30	15	D4165	53
27.36	3458	1.60	15	E4170	53
31.52	3001	0.89	15	C4155	46
31.52	3001	1.13	15	D4160	46
31.52	3001	1.51	15	D4165	46
31.52	3001	1.89	15	E4170	46
37.18	2544	1.14	15	C4155	39
37.18	2544	1.39	15	D4160	39
37.18	2544	1.64	15	D4165	39
51.79	1827	1.14	15	C4155	28
51.79	1827	1.39	15	D4160	28
51.79	1827	1.64	15	D4165	28
69.05	1370	1.14	15	C4155	21
82.86	1134	1.20	15	C4155	17.5
82.86	1134	1.45	15	D4160	17.5
138.09	680	1.20	15	C4155	10.5
138.09	680	1.45	15	D4160	10.5

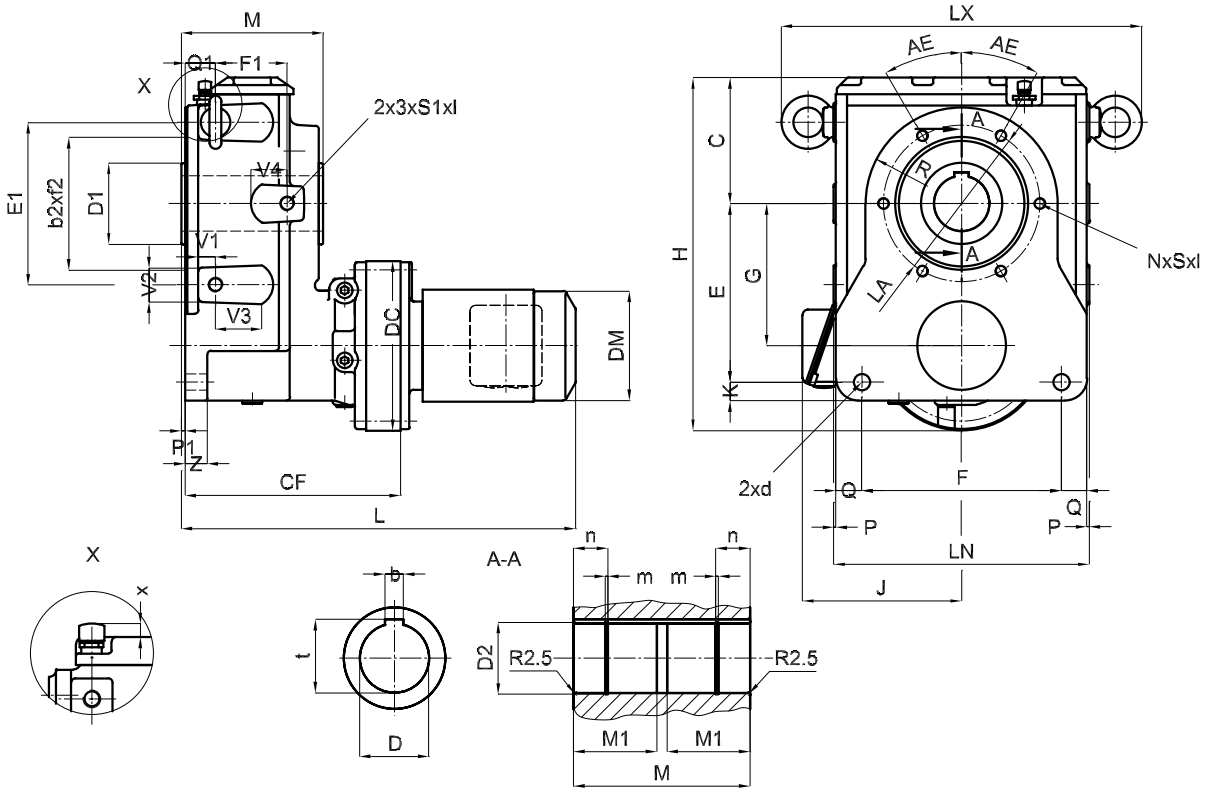
For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y5, Y6 position ratings.

15kW motor type G160L/4 (B) (n1 = 1460 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
11.87	10867	0.74	20	E4175	123
14.31	9012	0.90	20	E4175	102
16.59	7775	0.82	20	E4170	88
16.59	7775	1.00	20	E4175	88
19.73	6538	0.85	20	D4165	74
19.73	6538	1.00	20	E4170	74
19.73	6538	1.19	20	E4175	74
24.33	5301	1.00	20	D4165	60
24.33	5301	1.03	20	E4170	60
24.33	5301	1.25	20	E4175	60
27.55	4683	1.00	20	D4165	53
27.55	4683	1.18	20	E4170	53
27.55	4683	1.47	20	E4175	53
31.74	4064	0.83	20	D4160	46
31.74	4064	1.11	20	D4165	46
31.74	4064	1.38	20	E4170	46
31.74	4064	1.73	20	E4175	46
37.44	3446	1.02	20	D4160	39
37.44	3446	1.20	20	D4165	39
37.44	3446	1.67	20	E4170	39
52.14	2474	1.02	20	D4160	28
52.14	2474	1.20	20	D4165	28
83.43	1535	1.07	20	D4160	17.5
83.43	1535	1.20	20	D4165	17.5
83.43	1535	1.67	20	E4170	17.5
139.05	921	1.07	20	D4160	10.5
139.05	921	1.20	20	D4165	10.5
139.05	921	1.67	20	E4170	10.5

18.5kW motor type F180MG/4 (B) (n1 = 1475 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
16.76	9492	0.81	25	E4175	88
19.93	7982	1.00	25	E4175	74
24.58	6471	0.83	25	E4170	60
24.58	6471	1.01	25	E4175	60
27.83	5716	1.00	25	E4170	53
27.83	5716	1.19	25	E4175	53
32.07	4961	1.12	25	E4170	46
32.07	4961	1.41	25	E4175	46
37.82	4206	1.35	25	E4170	39
37.82	4206	1.42	25	E4175	39
84.29	1874	0.97	25	D4165	17.5
84.29	1874	1.35	25	E4170	17.5
84.29	1874	1.49	25	E4175	17.5
140.48	1124	0.97	25	D4165	10.5
140.48	1124	1.35	25	E4170	10.5
140.48	1124	1.49	25	E4175	10.5

22kW motor type F180MG/4 (B) (n1 = 1470 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
19.86	9524	0.81	30	E4175	74
24.50	7722	0.85	30	E4175	60
27.74	6821	0.80	30	E4170	53
27.74	6821	1.00	30	E4175	53
31.96	5920	0.94	30	E4170	46
31.96	5920	1.18	30	E4175	46
37.69	5019	1.14	30	E4170	39
37.69	5019	1.19	30	E4175	39
84.00	2236	1.14	30	E4170	17.5
84.00	2236	1.25	30	E4175	17.5
140.00	1342	1.14	30	E4170	10.5
140.00	1342	1.25	30	E4175	10.5

Helical Buddybox GearMotor Dimension Sheets

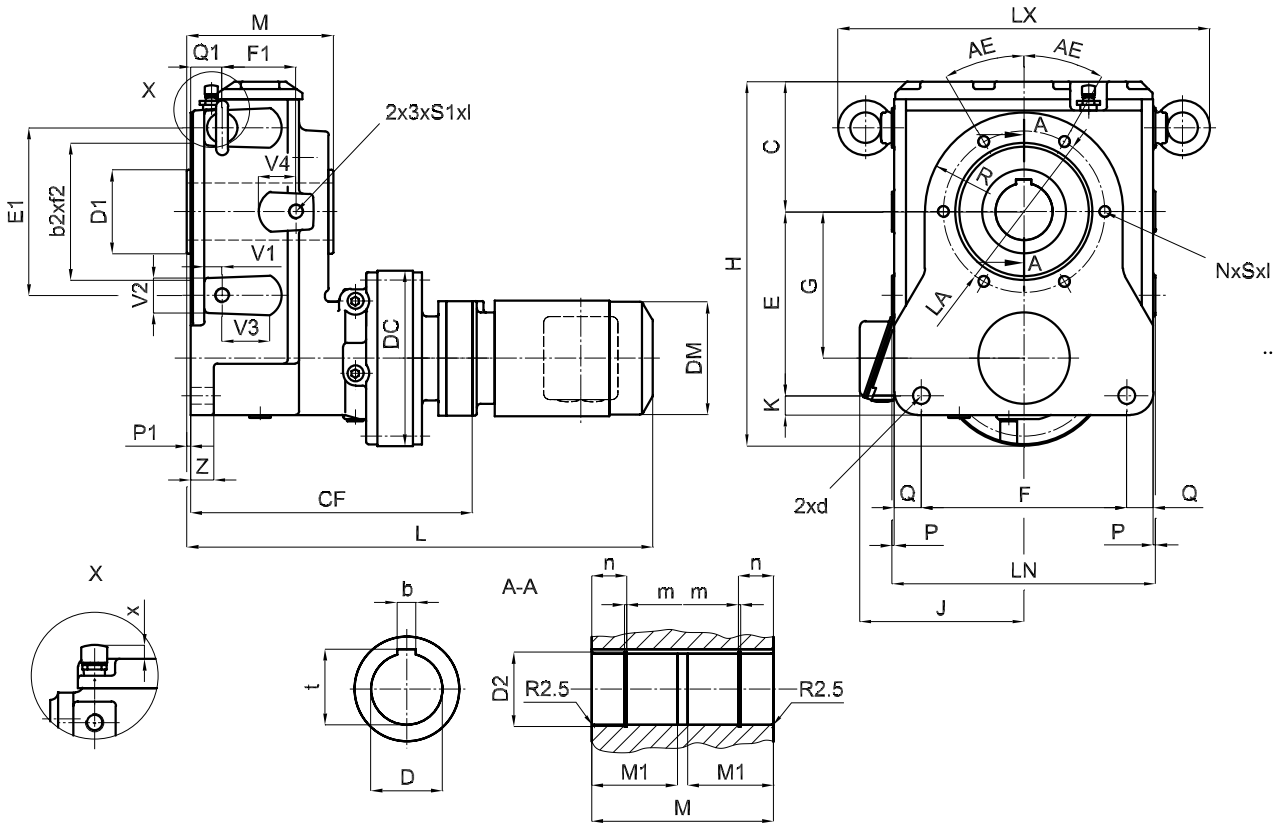


Size	DC	C CF Z	E G K	Q F d	Q1 F1	H x E1	b2 f2	M P1	V1 V2	V3 V4	LN P LX	D b t	D1 D2	M1 m n	LA AE° R	N S l	S1 l
AA 4090 AA 4095	150	107.5 166 20	157 119 15	15.5 180 14	27 56	301.5 10 140	100 3.5	120 5	13 26	13 13	217 3 306	30 8 33.3	65 31.4	57 1.3 18	120 0 72.5	4 M10 20	M10 20
A 4100 A 4105	150	117 195 20	163.5 130.5 20	21.5 190 18	29 66	322.5 12 150	130 4	134 5	14 28	14 14	239 3 345	40 12 43.3	85 42.5	63 1.85 24	155 30 90	6 M10 20	M12 22
B 4110 B 4115 B 4125	204	144.5 228 25	202.5 162.5 20	35 220 18	31 86	409 190	150 4	160 5	17 32	17 17	296 3 419	60 18 64.4	100 63	75 2.15 30	175 30 105	6 M12 22	M16 26
C 4145 C 4155	230	171 292 30	242 192.5 25	35 270 22	41 97	478.5 220	180 5	192 5	23 46	63 34	346 3 488	70 20 74.9	110 73	100 2.65 37	212 30 130	6 M16 30	M20 35
D 4160 D 4165	300	214 342 35	293 244 32	51 324 26	45 114	608 250	210 5	218 7	25 55	67 67	436 5 616	90 25 95.4	130 93.5	110 3.15 37	255 30 150	6 M20 35	M24 40
E 4170 E 4175	340	240 376 45	332 272 38	60 360 33	50 127	682 300	240 5	238 7	25 56	72 75	490 5 670	100 28 106.4	150 103.5	110 3.15 37	280 22.5 165	8 M20 35	M24 40

Input Element

Size	kW	Input Element	Standard				with Brake			
			L	J	DM	kg	L	J	DM	kg
AA 4090 AA 4095	0.12	F63S/4(B)	320	114	119	29	340	114	124	31
	0.18	F63M/4(B)	347	114	124	30	379	114	124	32
	0.25	F63M/4(B)	347	114	124	30	379	114	124	32
	0.37	F71M/4(B)	367	114	124	31	399	114	124	33
	0.55	F80S/4(B)	408	123	148	35	451	123	148	38
	0.75	F80M/4(B)	408	123	148	35	451	123	148	38
	1.1	F90S/4(B)	441	128	160	39	503	128	160	44
A 4100 A 4105	0.18	F63M/4(B)	376	114	124	39	408	114	124	41
	0.25	F63M/4(B)	376	114	124	39	408	114	124	41
	0.37	F71M/4(B)	396	114	124	40	428	114	124	42
	0.55	F80S/4(B)	437	123	148	44	480	123	148	47
	0.75	F80M/4(B)	437	123	148	44	480	123	148	47
	1.1	F90S/4(B)	470	128	160	48	532	128	160	53
	1.5	F90L/4(B)	470	128	160	48	532	128	160	53
	2.2	F100L/4(B)	490	135	173	52	553	135	173	58
B 4110 B 4115 B 4125	0.37	F71M/4(B)	434	114	124	69	466	114	124	71
	0.55	F80S/4(B)	470	123	148	74	513	123	148	77
	0.75	F80M/4(B)	470	123	148	74	513	123	148	77
	1.1	F90S/4(B)	503	128	160	78	565	128	160	83
	1.5	F90L/4(B)	503	128	160	78	565	128	160	83
	2.2	F100L/4(B)	523	135	173	82	586	135	173	89
	3	F112S/4(B)	546	153	212	92	618	153	212	102
	4	F112M/4(B)	546	153	212	92	618	153	212	102
	5.5	F132S/4(B)	590	153	212	99	662	153	212	109
C 4145 C 4155	0.75	F80M/4(B)	534	123	148	119	577	123	148	122
	1.1	F90S/4(B)	567	128	160	123	629	128	160	128
	1.5	F90L/4(B)	567	128	160	123	629	128	160	128
	2.2	F100L/4(B)	587	135	173	126	650	135	173	132
	3	F112S/4(B)	610	153	212	136	682	153	212	146
	4	F112M/4(B)	610	153	212	136	682	153	212	146
	5.5	F132S/4(B)	654	153	212	143	726	153	212	153
	7.5	F132M/4(B)	677	204	251	158	772	204	251	176
	11	F160M/4(B)	737	204	251	172	832	204	251	190
D 4160 D 4165	1.5	F90L/4(B)	624	128	160	213	686	128	160	218
	2.2	F100L/4(B)	639	135	173	216	702	135	173	222
	3	F112S/4(B)	662	153	212	225	734	153	212	235
	4	F112M/4(B)	662	153	212	225	734	153	212	235
	5.5	F132S/4(B)	706	153	212	232	778	153	212	242
	7.5	F132M/4(B)	734	204	251	248	829	204	251	266
	11	F160M/4(B)	794	204	251	262	889	204	251	280
	15	G160L/4(B)	879	252	324	315	969	252	324	348
E 4170 E 4175	3	F112S/4(B)	711	153	212	297	783	153	212	307
	4	F112M/4(B)	711	153	212	297	783	153	212	307
	5.5	F132S/4(B)	755	153	212	304	827	153	212	314
	7.5	F132M/4(B)	773	204	251	320	868	204	251	338
	11	F160M/4(B)	833	204	251	334	928	204	251	352
	15	G160L/4(B)	913	252	324	388	1003	252	324	421
	18.5	F180MG/4	1008	297	394	463	-	-	-	-
	22	F180MG/4	1008	297	394	463	-	-	-	-

Example - EHYM2-C4155EY3-249/F90L/4

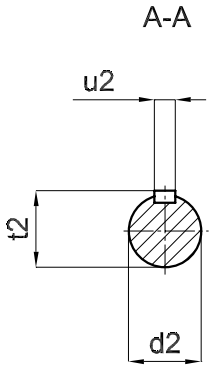


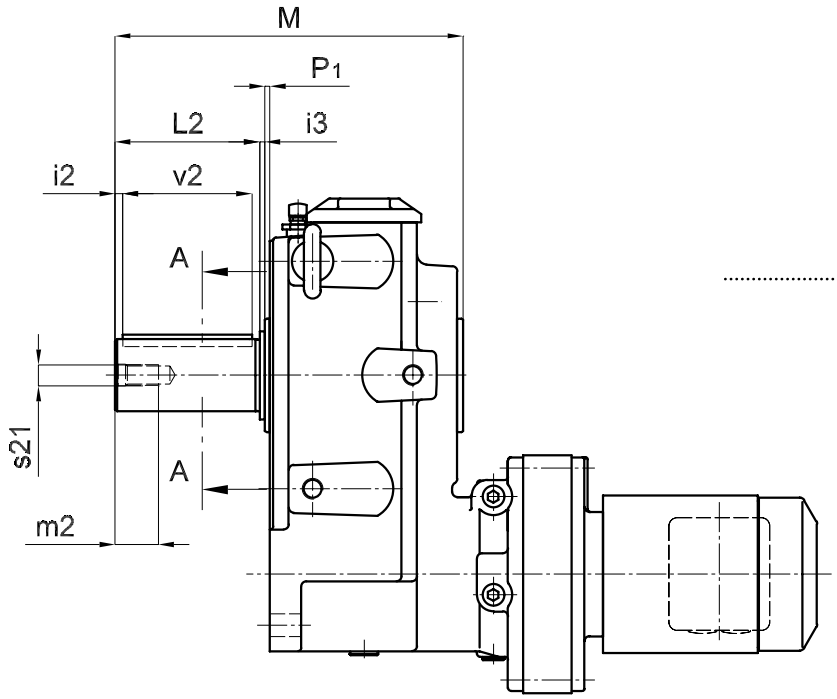
Size	DC	C	E	Q	Q1	H	b2	M	V1	V3	LN	D	D1	M1	LA	N	S1
		Z	K	d	F1	E1	f2	P1	V2	V4	LX	t	D2	n	R	I	I
AA4090DA AA4095DA	150	107.5	157	15.5	27	301.5	100	120	13	13	217	30	65	57	120	4	M10
			119	180		10					3	8		1.3	0	M10	
		20	15	14	56	140	3.5	5	26	13	306	33.3	31.4	18	72.5	20	20
A 4100DA A 4105DA	150	117	163.5	21.5	29	322.5	130	134	14	14	239	40	85	63	155	6	M12
			130.5	190		12					3	12		1.85	30	M10	
		20	20	18	66	150	4	5	28	14	345	43.3	42.5	24	90	20	22
B 4110DA B 4115DA B 4110DB B 4115DB	204	144.5	202.5	35	31	409	150	160	17	17	296	60	100	75	175	6	M16
			162.5	220							3	18		2.15	30	M12	
		25	20	18	86	190	4	5	32	17	419	64.4	63	30	105	22	26
C 4145DC	230	171	242	35	41	478.5	180	192	23	63	346	70	110	100	212	6	M20
			192.5	270							3	20		2.65	30	M16	
		30	25	22	97	220	5	5	46	34	488	74.9	73	37	130	30	35
D 4160DB D 4165DB D 4160DC D 4165DC	300	214	293	51	45	608	210	218	25	67	436	90	130	110	255	6	M24
			244	324							5	25		3.15	30	M20	
		35	32	26	114	250	5	7	55	67	616	95.4	93.5	37	150	35	40
E4170DC E4175DC	340	240	332	60	50	682	240	238	25	72	490	100	150	110	280	8	M24
			272	360							5	28		3.15	22.5	M20	
		45	38	33	127	300	5	7	56	75	670	106.4	103.5	37	165	35	40

Input Element

Size	Motor kW	Input Element		Standard				with Brake			
			CF	L	J	DM	kg	L	J	DM	kg
AA 4090DA AA 4095DA	0.12	F63S/4(B)	214	368	114	119	32	388	114	124	33
	0.18	F63M/4(B)	214	395	114	124	32	427	114	124	33
	0.25	F63M/4(B)	214	395	114	124	32	427	114	124	33
A 4100DA A 4105DA	0.12	F63S/4(B)	243	397	114	119	39	417	114	124	40
	0.18	F63M/4(B)	243	424	114	124	40	456	114	124	42
	0.25	F63M/4(B)	243	424	114	124	40	456	114	124	42
	0.37	F71M/4(B)	243	444	114	124	41	476	114	124	44
B 4110DA B 4115DA	0.12	F63S/4(B)	282	436	114	119	68	456	114	124	69
	0.18	F63M/4(B)	282	463	114	124	69	495	114	124	70
	0.25	F63M/4(B)	282	463	114	124	69	495	114	124	70
	0.37	F71M/4(B)	282	483	114	124	70	515	114	124	72
B 4110DB B 4115DB	0.55	F80S/4(B)	294	536	123	148	80	579	123	148	83
	0.75	F80M/4(B)	294	536	123	148	80	579	123	148	83
C 4145DC C 4155DC	0.18	F63M/4(B)	369	574	114	124	118	582	114	124	119
	0.25	F63M/4(B)	369	574	114	124	118	582	114	124	119
	0.37	F71M/4(B)	369	594	114	124	119	602	114	124	120
	0.55	F80S/4(B)	369	614	123	148	123	654	123	148	126
	0.75	F80M/4(B)	369	614	123	148	123	654	123	148	126
	1.1	F90S/4(B)	369	644	128	160	127	706	128	160	132
	1.5	F90L/4(B)	369	644	128	160	127	706	128	160	132
	2.2	F100L/4(B)	369	664	135	173	130	727	135	173	136
D 4160DB D 4165DB	0.18	F63M/4(B)	421	615	114	124	212	636	114	124	213
	0.25	F63M/4(B)	421	615	114	124	212	636	114	124	213
	0.37	F71M/4(B)	421	635	114	124	213	656	114	124	214
	0.55	F80S/4(B)	421	665	123	148	216	708	123	148	219
	0.75	F80M/4(B)	421	665	123	148	216	708	123	148	219
	1.1	F90S/4(B)	421	698	128	160	220	760	128	160	225
	1.5	F90L/4(B)	421	698	128	160	220	760	128	160	225
	2.2	F100L/4(B)	421	718	135	173	224	781	135	173	230
D 4160DC D 4165DC	3	F112S/4(B)	423	743	153	212	240	815	153	212	250
	4	F112M/4(B)	423	743	153	212	240	815	153	212	250
E 4170DC E 4175DC	0.37	F71M/4(B)	460	668	114	124	285	700	114	124	289
	0.55	F80S/4(B)	460	704	123	148	287	747	123	148	290
	0.75	F80M/4(B)	460	704	123	148	287	747	123	148	290
	1.1	F90S/4(B)	460	737	128	160	290	799	128	160	295
	1.5	F90L/4(B)	460	737	128	160	290	799	128	160	295
	2.2	F100L/4(B)	460	757	135	173	294	820	135	173	301
	3	F112S/4(B)	460	780	153	212	305	852	153	212	315
	4	F112M/4(B)	460	780	153	212	305	852	153	212	315

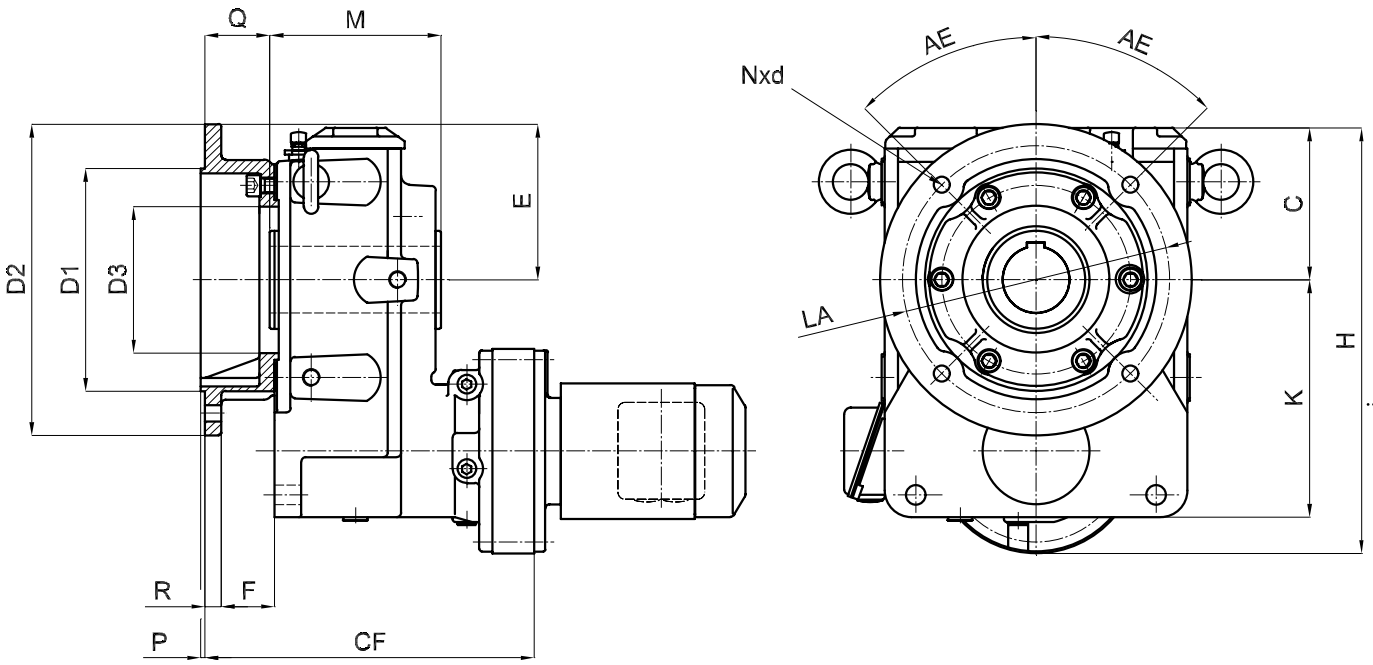
Example - EHYM1-C4145DCEY3-578/F80M/4





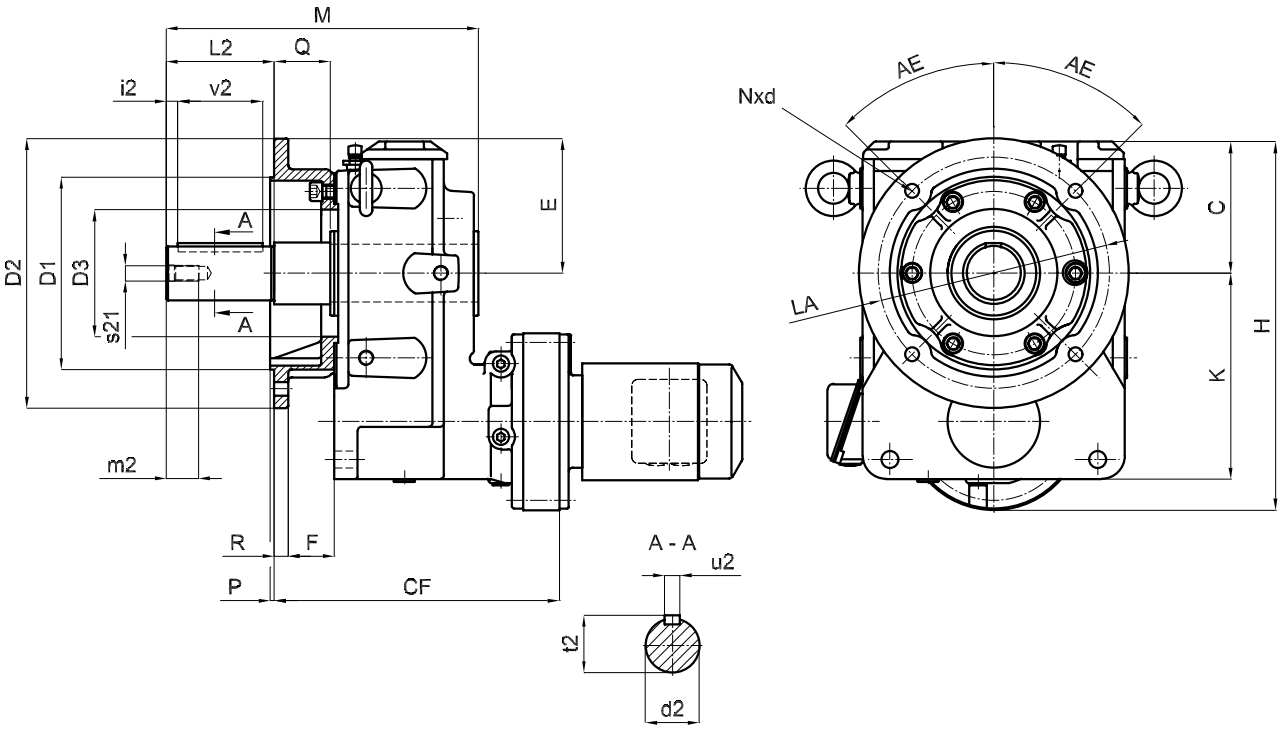
size	d2	t2	u2	L2	m2	s21	v2	i2	i3	P1	M
AA4090 AA4905	30	33	8	60	22	M10	50	3.5	5	5	185
A4100 A4105	40	43	12	80	36	M16	70	3	5	5	219
B4110 B4115 B4125	60	64	18	120	42	M20	100	10	5	5	285
C4145 C4155	70	74.5	20	140	42	M20	120	7.5	5	5	337
D4160 D4165	90	95	25	170	50	M24	150	5	10	7	398
E4170 E4175	110	116	28	210	50	M24	180	10	17	7	465

Example - EHHM2-C4155EY3-249/F90L/4



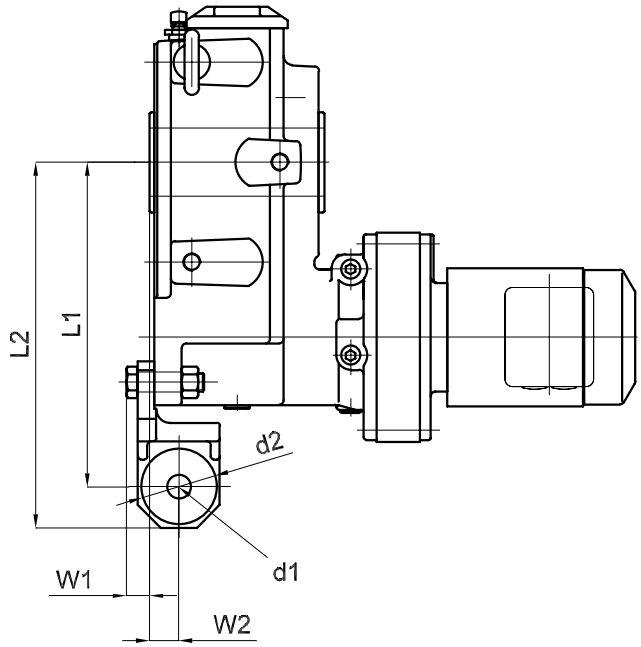
Size	CF	E	C	K	M	Q	F	R	P	D1	D2	D3	LA	N	d	AE°	H
AA4090 AA4095	218	100	107.8	172	120	47	40	12	3.5	130	200	90	165	4	11	45	302
A4100 A4105	260	125	117	184	134	60	50	15	4	180	250	120	215	4	14	45	323
B4110 B4115 B4125	294	150	144.5	223	160	61	50	16	4	230	300	140	265	4	14	45	410
C4145 C4155	370	175	171	267	192	73	60	18	5	250	350	165	300	4	18	45	479
D4160 D4165	429	225	214	325	218	80	65	22	5	350	450	195	400	8	18	22.5	608
E4170 E4175	463	225	240	370	238	80	65	22	5	350	450	220	400	8	18	22.5	682

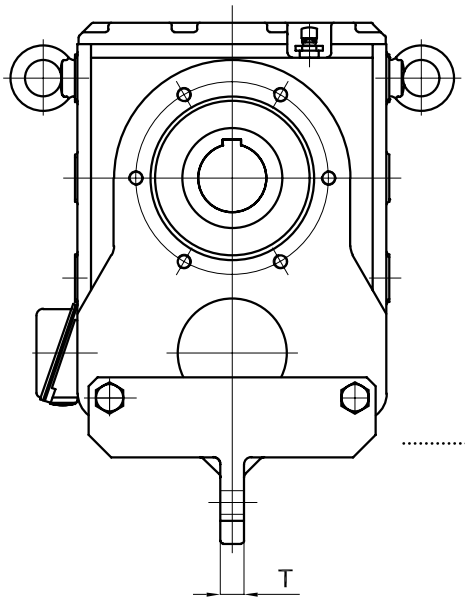
Example - EHFM2-C4155EY3-249/F90L/4



Size	d2	i2	t2	s21	CF	H	K	Q	P	D2	N	AE °
	L2	v2	u2	m2	M	E	C	F	R	D1	d	LA
AA 4090 AA 4095	30	3.5	33	M10	218	301.2	172	47	3.5	200	4	45
	60	50	8	22	227	100	107.8	40	12	130 90	11	165
A 4100 A 4105	40	3	43	M16	260	323	184	60	4	250	4	45
	80	70	12	36	274	125	117	50	15	180 120	14	215
B 4110 B4115 B4125	60	10	64	M20	294	409	223	61	4	300	4	45
	120	100	18	42	341	150	144.5	50	16	230 140	14	265
C 4145 C4155	70	7.5	74.5	M20	370	478.5	267	73	5	350	4	45
	140	120	20	42	405	175	171	60	18	250 165	18	300
D 4160 D4165	90	5	95	M24	429	608	325	80	5	450	8	22.5
	170	150	25	50	468	225	214	65	22	350 195	18	400
E 4170 E4175	110	10	116	M24	463	682	370	80	5	450	8	22.5
	210	180	28	50	528	225	240	65	22	350 220	18	400

Example - EHVM2-C4155EY3-249/F90L/4





Size	L1	L2	W1	W2	T	d1	d2*	Screw
AA4090 AA4905	227	252	18	15	12	14	43	M12
A 4100 A 4105	238.5	268.5	23	17	16	18	53	M16
B 4110 B 4115 B 4125	292.5	329.5	27	19	20	22	66	M20
C 4145 C 4155	357	402	32	26	26	26	83	M24
D 4160 D 4165	433	478	40	30	30	26	83	M30
E 4170 E 4175	482	537	56	38	36	33	103	M30

d2* ∅ max. buffer

Example - EHYMS2-C4155EY3-249/F90L/4

Helical Buddybox Speed Reducer Selection Tables

Helical Buddybox Selection Tables

n_1 input speed [min-1]
n_2 output speed [min-1]
P_1 input power [kW]
M_2 output torque [Nm]
i_t total reduction ratio

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y5, Y6 position ratings.

n1 = 500																		
Size	**n2**	**47.6**	**28.6**	**23.8**	**17.9**	**12.8**	**10.9**	**9.4**	**8.3**	**6.76**	**5.68**	**4.9**	**4.07**	**3.31**	**2.79**	**2.42**	**2.01**	**1.64**
	it	**10.5**	**17.5**	**21**	**28**	**39**	**46**	**53**	**60**	**74**	**88**	**102**	**123**	**151**	**179**	**207**	**249**	**305**
AA 4090	P1			0.36	0.36	0.36	0.35	0.35	0.32	0.22	0.22	0.19	0.16	0.13	0.10	0.09	0.07	0.06
	M2			129	174	238	279	324	334	280	327	327	334	334	306	321	296	300
AA4095	P1			0.63	0.63	0.55	0.47	0.45	0.40	0.32	0.27	0.23	0.19	0.16	0.13	0.12	0.10	0.08
	M2			228	304	369	372	412	412	412	412	412	412	412	412	412	412	412
A 4100	P1			0.86	0.85	0.79	0.67	0.67	0.61	0.52	0.44	0.38	0.31	0.26	0.22	0.19	0.16	0.13
	M2			310	409	528	528	613	630	664	664	664	647	664	664	664	664	664
A 4105	P1	1.13	1.13	1.27	1.27	1.04	0.88	0.91	0.81	0.65	0.55	0.47	0.39	0.32	0.27	0.23	0.19	0.16
	M2	203	339	459	612	698	698	833	833	833	833	833	833	833	833	833	833	833
B 4110	P1			1.79	1.80	1.78	1.68	1.46	1.29	1.04	0.88	0.76	0.63	0.51	0.43	0.37	0.31	0.25
	M2			647	868	1190	1330	1330	1330	1330	1330	1330	1330	1330	1320	1330	1320	1310
B 4115	P1	2.08	2.08	2.35	2.33	2.34	2.11	1.83	1.61	1.31	1.10	0.95	0.79	0.64	0.54	0.47	0.39	0.32
	M2	376	625	850	1120	1570	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670
B 4125	P1	2.82	2.82	2.85	2.90	2.34	2.11	1.83	1.61	1.31	1.10	0.95	0.79	0.64	0.54	0.47	0.39	0.32
	M2	509	847	1030	1400	1570	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670
C 4145	P1					4.64	4.21	3.66	3.23	2.62	2.20	1.90	1.58	1.28	1.08	0.94	0.78	0.64
	M2					3110	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
C 4155	P1	5.40	5.40	5.72	5.75	4.97	4.21	3.66	3.23	2.62	2.20	1.90	1.58	1.28	1.08	0.94	0.78	0.64
	M2	975	1623	2070	2770	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
D 4160	P1	6.57	6.57		7.41	7.31	5.94	5.04	5.02	4.07	3.42	2.95	2.45	1.99	1.68	1.45	1.21	0.99
	M2	1186	1973		3570	4900	4700	4600	5180	5180	5180	5180	5180	5180	5170	5180	5180	5180
D 4165	P1	8.40	8.40		9.47	7.72	7.31	6.34	5.60	4.54	3.82	3.30	2.73	2.23	1.88	1.62	1.35	1.10
	M2	1517	2524		4560	5180	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780
E 4170	P1	10.80	10.80			11.42	9.68	8.41	7.43	6.02	5.06	4.37	3.62	2.95	2.49	2.15	1.79	1.46
	M2	1950	3246			7660	7660	7660	7660	7660	7660	7660	7660	7660	7660	7660	7660	7660
E 4175	P1	11.27	11.27			12.05	10.22	8.87	7.83	6.35	5.34	4.61	3.82	3.11	2.63	2.27	1.89	1.54
	M2	2034	3386			8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090

Size	**n2**	**1.37**	**1.18**	**1.00**	**0.87**	**0.73**	**0.62**	**0.52**	**0.45**	**0.40**	**0.38**	**0.34**	**0.30**	**0.27**	**0.26**	**0.24**	**0.22**	**0.20**
	it	**364**	**424**	**501**	**578**	**683**	**809**	**956**	**1117**	**1250**	**1320**	**1488**	**1656**	**1838**	**1957**	**2083**	**2272**	**2559**
AA4090DA	P1	0.06	0.05	0.04	0.04	0.03	0.03	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01
	M2	334	334	334	334	334	334	334	334	334	334	334	334	334	334	334	334	334
AA4095DA	P1	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.01	0.01	0.01	0.01
	M2	347	337	398	412	412	386	412	412	412	412	412	412	412	412	412	412	412
A 4100DA	P1	0.12	0.10	0.08	0.07	0.06	0.05	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
	M2	668	668	668	668	668	668	668	668	668	668	668	668	668	668	668	668	668
A 4105DA	P1	0.12	0.10	0.09	0.09	0.08	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.02
	M2	695	674	717	833	833	833	833	833	833	833	833	833	833	833	833	833	833
B 4110DA	P1	0.23	0.20	0.17	0.14	0.12	0.10	0.09	0.07	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03
	M2	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330
B 4115DA	P1			0.21	0.18	0.15	0.13	0.11	0.09	0.08	0.08	0.07	0.06	0.06	0.05	0.05	0.05	0.04
	M2			1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670
B 4115DB	P1	0.29	0.25															
	M2	1670	1670															
C 4145DC	P1	0.58	0.49	0.42	0.36	0.31	0.26	0.22	0.19	0.17	0.16	0.14	0.13	0.11	0.11	0.10	0.09	0.08
	M2	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
D 4160DB	P1	0.89	0.77	0.65	0.56	0.48	0.40	0.34	0.29	0.26	0.25	0.22	0.20	0.18	0.17	0.16	0.14	0.13
	M2	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170
D 4165DB	P1	1.00	0.86	0.73	0.63	0.53	0.45	0.38	0.33	0.29	0.28	0.24	0.22	0.20	0.19	0.17	0.16	0.14
	M2	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780
E 4170DC	P1	1.33	1.14	0.96	0.84	0.71	0.60	0.50	0.43	0.39	0.37	0.32	0.29	0.26	0.25	0.23	0.21	0.19
	M2	7698	7686	7648	7720	7711	7718	7601	7637	7752	7766	7571	7636	7599	7779	7618	7587	7731
E 4175DC	P1	1.40	1.20	1.02	0.88	0.74	0.63	0.53	0.46	0.41	0.39	0.34	0.31	0.28	0.26	0.24	0.22	0.20
	M2	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090

Helical Buddybox Selection Tables

n_1 input speed [min-1]
n_2 output speed [min-1]
P_1 input power [kW]
M_2 output torque [Nm]
i_t total reduction ratio

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y5, Y6 position ratings.

n1 = 750																		
Size	**n2**	**71.4**	**42.9**	**35.7**	**26.8**	**19.2**	**16.3**	**14.2**	**12.5**	**10.1**	**8.52**	**7.35**	**6.1**	**4.97**	**4.19**	**3.62**	**3.01**	**2.46**
	it	**10.5**	**17.5**	**21**	**28**	**39**	**46**	**53**	**60**	**74**	**88**	**102**	**123**	**151**	**179**	**207**	**249**	**305**
AA 4090	P1			0.48	0.48	0.48	0.48	0.48	0.48	0.30	0.29	0.25	0.24	0.18	0.13	0.12	0.09	0.08
	M2			116	154	215	253	292	331	255	293	293	334	312	267	285	257	280
AA 4095	P1			0.84	0.84	0.76	0.70	0.68	0.60	0.49	0.41	0.35	0.29	0.24	0.20	0.17	0.14	0.12
	M2			202	270	340	367	412	412	412	412	412	412	412	412	412	412	412
A 4100	P1			1.14	1.14	1.06	0.90	0.90	0.81	0.79	0.66	0.57	0.41	0.38	0.30	0.25	0.22	0.19
	M2			275	366	474	475	547	558	668	668	668	579	659	616	594	629	668
A 4105	P1	1.69	1.69	1.69	1.69	1.57	1.33	1.37	1.21	0.98	0.83	0.71	0.59	0.48	0.41	0.35	0.29	0.24
	M2	203	339	407	543	702	702	834	834	834	834	834	834	834	834	834	834	834
B 4110	P1			2.39	2.39	2.39	2.33	2.20	1.94	1.57	1.32	1.14	0.95	0.77	0.65	0.56	0.47	0.38
	M2			576	768	1060	1230	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330
B 4115	P1	3.12	3.12	3.12	3.12	3.14	3.03	2.74	2.42	1.96	1.65	1.42	1.18	0.96	0.81	0.70	0.58	0.48
	M2	375	626	752	1000	1400	1590	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660
B 4125	P1	4.23	4.23	4.23	4.23	3.14	3.14	2.74	2.42	1.96	1.65	1.42	1.18	0.96	0.81	0.70	0.58	0.48
	M2	509	848	1010	1350	1400	1650	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660
C 4145	P1					6.24	6.02	5.48	4.84	3.93	3.30	2.85	2.36	1.92	1.62	1.40	1.17	0.95
	M2					2790	3170	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
C 4155	P1	8.10	8.10	8.10	8.10	7.45	6.32	5.48	4.84	3.93	3.30	2.85	2.36	1.92	1.62	1.40	1.17	0.95
	M2	975	1624	1950	2600	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
D 4160	P1	9.85	9.85		9.85	9.85	8.00	6.77	6.77	6.10	5.13	4.42	3.39	2.99	2.52	2.18	1.81	1.48
	M2	1185	1975		3160	4400	4220	4110	4660	5170	5170	5170	4780	5170	5170	5170	5170	5170
D 4165	P1	12.60	12.60		12.60	11.60	10.70	9.23	8.40	6.81	5.73	4.94	4.10	3.34	2.82	2.44	2.03	1.65
	M2	1516	2527		4040	5170	5640	5610	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780
E 4170	P1	16.20	16.20			16.20	13.40	11.40	9.94	9.05	7.61	6.56	5.44	4.43	3.74	3.23	2.69	2.19
	M2	1949	3249			7250	7070	6930	6840	7680	7680	7680	7680	7680	7680	7680	7680	7680
E 4175	P1	16.90	16.90			16.90	15.30	13.30	11.75	9.50	8.01	6.91	5.73	4.67	3.94	3.41	2.83	2.31
	M2	2034	3389			7560	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090

Size	**n2**	**2.06**	**1.77**	**1.50**	**1.30**	**1.10**	**0.93**	**0.78**	**0.67**	**0.60**	**0.57**	**0.50**	**0.45**	**0.41**	**0.38**	**0.36**	**0.33**	**0.29**
	it	**364**	**424**	**501**	**578**	**683**	**809**	**956**	**1117**	**1250**	**1320**	**1488**	**1656**	**1838**	**1957**	**2083**	**2272**	**2559**
AA 4090DA	P1	0.09	0.07	0.06	0.05	0.05	0.04	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02	0.01	0.01
	M2	334	334	334	334	334	334	334	334	334	334	334	334	334	334	334	334	334
AA 4095DA	P1	0.10	0.08	0.07	0.07	0.06	0.05	0.04	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02	0.02
	M2	386	360	372	412	412	412	412	412	412	412	412	412	412	412	412	412	412
A 4100DA	P1	0.17	0.15	0.13	0.11	0.09	0.08	0.07	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.03	0.02
	M2	656	674	668	668	668	668	668	668	668	668	668	668	668	668	668	668	668
A 4105DA	P1	0.18	0.16	0.13	0.14	0.12	0.10	0.08	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.03
	M2	695	719	690	833	833	833	833	833	833	833	833	833	833	833	833	833	833
B 4110DA	P1		0.30	0.25	0.22	0.18	0.16	0.13	0.11	0.10	0.10	0.08	0.08	0.07	0.06	0.06	0.06	0.05
	M2		1330	1328	1330	1303	1330	1317	1302	1325	1330	1262	1330	1330	1245	1325	1330	1330
B 4110DB	P1	0.35																
	M2	1351																
B 4115DA	P1				0.27	0.23	0.19	0.16	0.14	0.13	0.12	0.11	0.10	0.09	0.08	0.08	0.07	0.06
	M2				1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670
B 4115DB	P1	0.43	0.37	0.31														
	M2	1670	1670	1670														
C 4145DC	P1	0.86	0.72	0.63	0.54	0.46	0.39	0.33	0.28	0.25	0.24	0.21	0.19	0.17	0.16	0.15	0.14	0.12
	M2	3330	3236	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
D 4160DB	P1	1.34	1.15	0.97	0.84	0.71	0.60	0.51	0.44	0.39	0.37	0.33	0.29	0.27	0.25	0.23	0.21	0.19
	M2	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170
D 4165DB	P1	1.50	1.29	1.09	0.94	0.80	0.67	0.57	0.49	0.44	0.41	0.37	0.33	0.30	0.28	0.26	0.24	0.21
	M2	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780
E 4170DC	P1	1.99	1.71	1.45	1.25	1.06	0.90	0.76	0.65	0.58	0.55	0.49	0.44	0.39	0.37	0.35	0.32	0.28
	M2	7679	7686	7701	7659	7675	7718	7702	7696	7685	7696	7729	7724	7599	7676	7728	7707	7595
E 4175DC	P1	2.10	1.80	1.52	1.32	1.12	0.94	0.80	0.68	0.61	0.58	0.51	0.46	0.42	0.39	0.37	0.34	0.30
	M2	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090

Helical Buddybox Selection Tables

n_1 input speed [min-1]
n_2 output speed [min-1]
P_1 input power [kW]
M_2 output torque [Nm]
i_t total reduction ratio

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y5, Y6 position ratings.

n1 = 1000																		
Size	**n2**	**95.2**	**57.1**	**47.6**	**35.7**	**25.6**	**21.7**	**18.9**	**16.7**	**13.5**	**11.4**	**9.8**	**8.13**	**6.62**	**5.59**	**4.83**	**4.02**	**3.28**
	it	**10.5**	**17.5**	**21**	**28**	**39**	**46**	**53**	**60**	**74**	**88**	**102**	**123**	**151**	**179**	**207**	**249**	**305**
AA 4090	P1			0.58	0.58	0.58	0.58	0.58	0.58	0.36	0.35	0.30	0.30	0.22	0.16	0.15	0.11	0.09
	M2			105	140	195	230	265	300	229	265	263	318	286	247	267	236	236
AA 4095	P1			1.03	1.03	0.93	0.92	0.88	0.80	0.65	0.54	0.47	0.39	0.32	0.27	0.23	0.19	0.16
	M2			186	248	312	365	400	412	412	412	412	412	412	412	412	412	412
A 4100	P1			1.39	1.39	1.29	1.11	1.10	0.99	0.99	0.83	0.73	0.50	0.46	0.36	0.31	0.27	0.25
	M2			251	335	433	440	502	511	631	629	641	529	598	555	552	579	668
A 4105	P1	2.07	2.07	2.07	2.07	2.07	1.77	1.83	1.60	1.31	1.09	0.95	0.78	0.64	0.51	0.46	0.38	0.32
	M2	187	311	374	499	695	702	834	826	834	826	834	826	834	781	821	806	834
B 4110	P1			2.92	2.92	2.92	2.84	2.84	2.39	2.10	1.62	1.42	1.19	0.97	0.81	0.75	0.56	0.49
	M2			528	704	980	1120	1290	1230	1330	1220	1240	1250	1260	1240	1330	1200	1280
B 4115	P1	3.82	3.82	3.82	3.82	3.84	3.70	3.66	3.23	2.62	2.20	1.90	1.58	1.28	1.08	0.94	0.74	0.64
	M2	345	575	691	921	1280	1460	1660	1660	1660	1660	1660	1660	1660	1660	1660	1580	1660
B 4125	P1	5.18	5.18	5.18	5.18	3.84	3.84	3.66	3.23	2.62	2.20	1.90	1.58	1.28	1.08	0.94	0.78	0.64
	M2	467	779	936	1240	1280	1520	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660
C 4145	P1					7.64	7.36	7.15	6.46	5.18	4.40	3.75	3.15	2.41	2.16	1.87	1.56	1.27
	M2					2560	2910	3260	3330	3290	3330	3290	3330	3130	3330	3330	3330	3330
C 4155	P1	9.90	9.90	9.90	9.91	9.90	7.73	7.31	6.46	5.24	4.40	3.80	3.15	2.57	2.16	1.87	1.56	1.27
	M2	893	1489	1780	2380	3320	3060	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
D 4160	P1	12.00	12.00		12.00	12.00	9.79	8.28	8.28	8.13	6.69	5.65	4.14	3.98	3.25	2.79	2.42	1.92
	M2	1083	1805		2890	4020	3870	3770	4270	5170	5060	4960	4380	5170	5000	4970	5170	5040
D 4165	P1	15.40	15.40		15.40	15.40	13.10	11.30	11.21	9.09	7.64	6.59	5.47	4.45	3.76	3.25	2.70	2.20
	M2	1390	2316		3710	5170	5180	5150	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780
E 4170	P1	19.80	19.80			19.80	16.40	13.90	12.20	11.30	9.71	8.75	7.20	5.65	4.85	4.14	3.35	2.93
	M2	1787	2978			6640	6490	6340	6300	7190	7350	7680	7620	7340	7470	7370	7180	7680
E 4175	P1	20.70	20.70			20.70	20.40	17.40	14.80	12.70	10.70	9.20	7.60	6.20	5.30	4.50	3.80	3.08
	M2	1868	3114			6940	8090	7930	7640	8090	8090	8090	8090	8090	8090	8090	8090	8090
Size	**n2**	**2.75**	**2.36**	**2.00**	**1.73**	**1.46**	**1.24**	**1.05**	**0.90**	**0.80**	**0.76**	**0.67**	**0.60**	**0.54**	**0.51**	**0.48**	**0.44**	**0.39**
	it	**364**	**424**	**501**	**578**	**683**	**809**	**956**	**1117**	**1250**	**1320**	**1488**	**1656**	**1838**	**1957**	**2083**	**2272**	**2559**
AA 4090DA	P1	0.12	0.10	0.08	0.07	0.06	0.05	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
	M2	334	334	319	322	334	334	334	334	334	334	334	334	334	334	334	334	334
AA 4095DA	P1	0.13	0.11	0.09	0.09	0.08	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.02	0.02
	M2	376	371	358	412	412	412	412	412	412	412	412	412	412	412	412	412	412
A 4100DA	P1	0.23	0.20	0.17	0.15	0.12	0.10	0.09	0.08	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03
	M2	666	668	668	668	652	643	668	668	668	668	668	668	668	668	668	668	668
A 4105DA	P1	0.24	0.21	0.18	0.18	0.15	0.13	0.11	0.09	0.08	0.08	0.07	0.06	0.06	0.05	0.05	0.05	0.04
	M2	695	708	717	833	833	833	833	833	833	833	833	833	833	833	833	833	833
B 4110DA	P1			0.33	0.29	0.24	0.21	0.17	0.15	0.13	0.13	0.11	0.10	0.09	0.09	0.08	0.07	0.07
	M2			1330	1330	1330	1330	1330	1330	1292	1330	1301	1317	1315	1330	1325	1264	1330
B 4110DB	P1	0.46	0.39															
	M2	1330	1330															
B 4115DA	P1				0.36	0.31	0.26	0.22	0.19	0.17	0.16	0.14	0.13	0.11	0.11	0.10	0.09	0.08
	M2				1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1656	1670	1670
B 4115DB	P1	0.58	0.50	0.42														
	M2	1670	1670	1670														
C 4145DC	P1	1.15	0.96	0.84	0.72	0.61	0.52	0.44	0.37	0.34	0.32	0.28	0.25	0.23	0.21	0.20	0.18	0.16
	M2	3330	3236	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
D 4160DB	P1	1.79	1.53	1.30	1.13	0.95	0.80	0.68	0.58	0.52	0.49	0.44	0.39	0.35	0.33	0.31	0.29	0.25
	M2	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170
D 4165DB	P1	2.00	1.54	1.45	1.26	1.06	0.90	0.76	0.65	0.58	0.55	0.49	0.44	0.40	0.37	0.35	0.32	0.28
	M2	5780	5191	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780
E 4170DC	P1	2.65	2.28	1.93	1.67	1.41	1.19	1.01	0.86	0.77	0.73	0.65	0.58	0.53	0.49	0.46	0.42	0.38
	M2	7669	7680	7680	7674	7656	7654	7677	7637	7652	7661	7680	7636	7680	7624	7618	7587	7680
E 4175DC	P1	2.80	2.40	2.03	1.76	1.49	1.26	1.06	0.91	0.81	0.77	0.68	0.61	0.55	0.52	0.49	0.45	0.40
	M2	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090

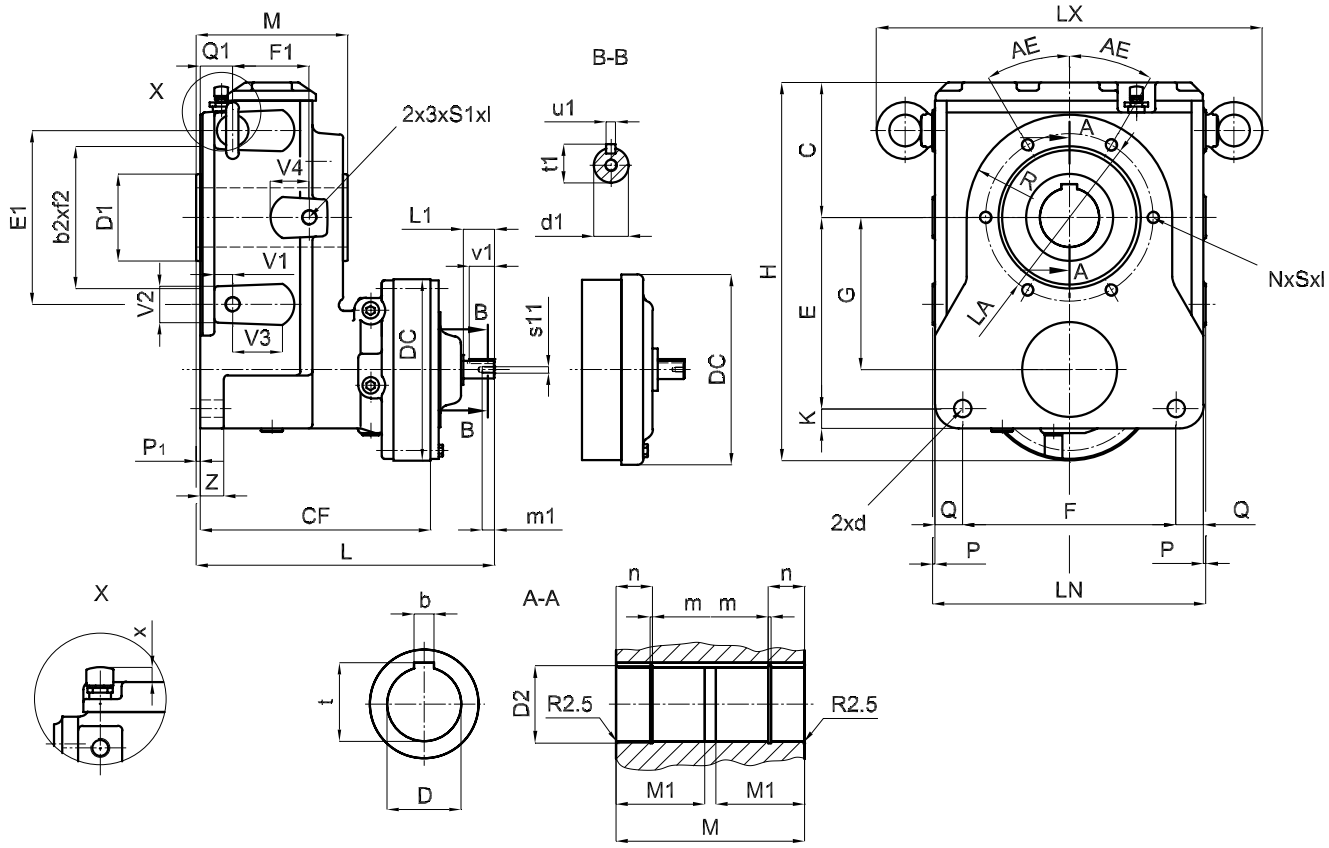
Helical Buddybox Selection Tables

n_1 input speed [min-1]
n_2 output speed [min-1]
P_1 input power [kW]
M_2 output torque [Nm]
i_t total reduction ratio

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y5, Y6 position ratings.

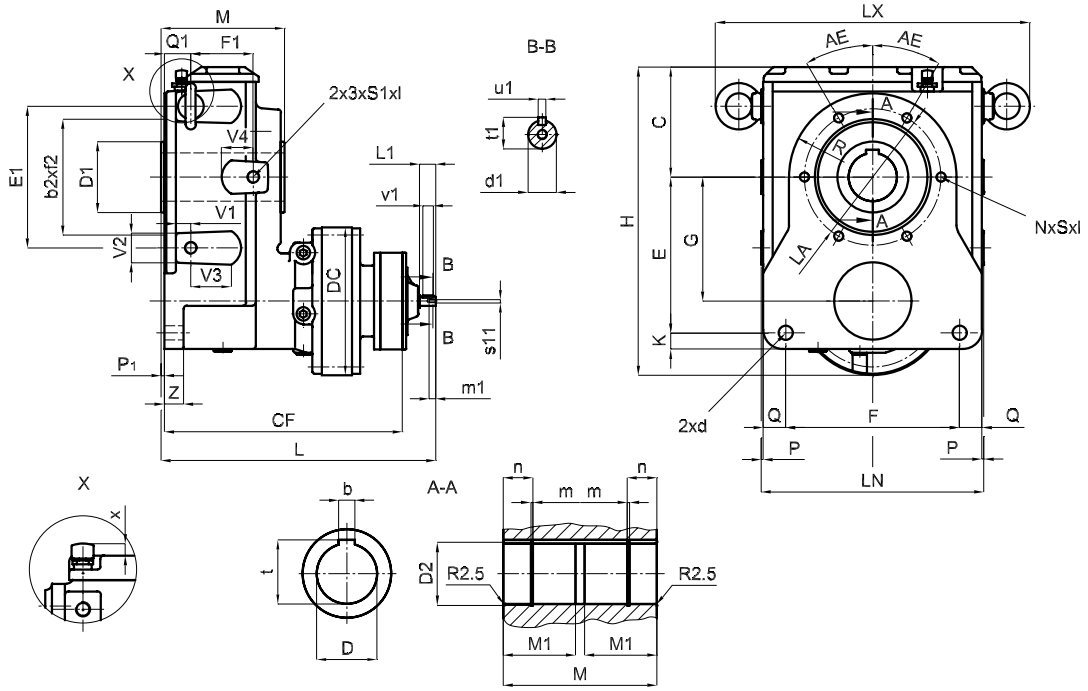
n1 = 1500																		
Size	**n2**	**142.9**	**85.7**	**71.4**	**53.6**	**38.5**	**32.6**	**28.3**	**25**	**20.3**	**17**	**14.7**	**12.2**	**9.93**	**8.38**	**7.25**	**6.02**	**4.92**
	it	**10.5**	**17.5**	**21**	**28**	**39**	**46**	**53**	**60**	**74**	**88**	**102**	**123**	**151**	**179**	**207**	**249**	**305**
AA 4090	P1			0.77	0.77	0.77	0.77	0.77	0.77	0.48	0.47	0.40	0.40	0.29	0.22	0.20	0.15	0.12
	M2			92.8	124	172	203	234	265	204	237	234	282	251	226	238	214	210
AA 4095	P1			1.36	1.36	1.23	1.22	1.16	1.09	0.97	0.75	0.68	0.58	0.48	0.37	0.33	0.26	0.24
	M2			164	219	275	322	353	375	412	380	398	412	412	378	394	373	412
A 4100	P1			1.85	1.85	1.72	1.47	1.46	1.32	1.32	1.10	0.97	0.66	0.62	0.48	0.41	0.35	0.35
	M2			223	297	385	388	444	455	561	556	568	466	537	493	487	500	613
A 4105	P1	2.75	2.75	2.75	2.75	2.75	2.66	2.75	2.13	1.96	1.45	1.38	1.04	0.94	0.67	0.61	0.50	0.48
	M2	165	276	331	442	615	702	834	733	834	732	808	734	813	692	728	714	834
B 4110	P1			3.88	3.88	3.88	3.78	3.78	3.17	2.99	2.15	1.89	1.58	1.29	1.08	1.00	0.74	0.65
	M2			468	623	868	998	1140	1090	1260	1080	1100	1110	1110	1100	1180	1050	1130
B 4115	P1	5.07	5.07	5.07	5.07	5.07	4.92	4.97	4.76	3.93	3.26	2.85	2.36	1.92	1.62	1.40	0.98	0.94
	M2	305	508	611	815	1130	1290	1510	1630	1660	1640	1660	1660	1660	1660	1660	1400	1640
B 4125	P1	6.88	6.88	6.88	6.88	5.10	5.09	5.09	4.84	3.93	3.30	2.85	2.36	1.92	1.62	1.40	1.04	0.94
	M2	414	690	829	1100	1140	1340	1540	1660	1660	1660	1660	1660	1660	1660	1660	1480	1640
C 4145	P1					10.10	9.78	9.50	9.29	6.88	5.97	4.98	4.73	3.20	2.97	2.81	2.13	1.91
	M2					2260	2580	2880	3190	2920	3010	2910	3330	2770	3050	3330	3040	3330
C 4155	P1	13.20	13.20	13.20	13.20	13.20	10.30	10.20	9.29	7.25	6.60	5.70	4.73	3.85	3.25	2.81	2.33	1.91
	M2	794	1324	1590	2120	2950	2710	3100	3190	3070	3330	3330	3330	3330	3330	3330	3330	3330
D 4160	P1	16.00	16.00		16.00	16.00	13.00	11.00	11.00	11.00	8.88	7.50	5.50	5.50	4.32	3.70	3.25	2.54
	M2	963	1604		2570	3580	3430	3340	3780	4670	4480	4390	3880	4760	4430	4390	4640	4440
D 4165	P1	18.00	18.00		18.00	18.00	17.40	15.00	15.30	13.50	11.46	9.86	8.20	6.68	5.63	4.87	4.05	3.31
	M2	1083	1805		2890	4020	4590	4560	5260	5730	5780	5770	5780	5780	5780	5780	5780	5780
E 4170	P1	25.00	25.00			25.00	21.80	18.50	16.10	15.00	12.90	11.80	9.56	7.50	6.45	5.50	4.45	4.08
	M2	1504	2507			5590	5750	5620	5540	6370	6510	6900	6740	6490	6620	6530	6350	7140
E 4175	P1	27.50	27.50			27.50	27.30	23.10	19.70	18.80	15.80	13.80	11.50	9.30	7.90	6.80	5.70	4.60
	M2	1655	2758			6150	7200	7020	6780	7980	7970	8090	8090	8090	8090	8090	8090	8090
Size	**n2**	**4.12**	**3.54**	**2.99**	**2.60**	**2.20**	**1.85**	**1.57**	**1.34**	**1.20**	**1.14**	**1.01**	**0.91**	**0.82**	**0.77**	**0.72**	**0.66**	**0.59**
	it	**364**	**424**	**501**	**578**	**683**	**809**	**956**	**1117**	**1250**	**1320**	**1488**	**1656**	**1838**	**1957**	**2083**	**2272**	**2559**
AA 4090DA	P1	0.17	0.15	0.13	0.11	0.09	0.08	0.07	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.03	0.02
	M2	328	334	334	334	334	334	334	334	334	334	334	334	334	334	334	334	334
AA 4095DA	P1	0.19	0.16	0.14	0.13	0.11	0.10	0.08	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.03
	M2	367	360	372	412	412	412	412	412	412	412	412	412	412	412	412	412	412
A 4100DA	P1	0.34	0.30	0.25	0.22	0.18	0.15	0.13	0.11	0.10	0.09	0.08	0.08	0.07	0.06	0.06	0.06	0.05
	M2	664	664	664	664	664	664	664	664	664	664	664	664	664	664	664	664	664
A 4105DA	P1	0.36	0.31	0.26	0.27	0.23	0.19	0.16	0.14	0.13	0.12	0.11	0.09	0.09	0.08	0.08	0.07	0.06
	M2	695	697	690	833	833	833	833	833	833	833	833	833	833	833	833	833	833
B 4110DA	P1					0.37	0.31	0.26	0.22	0.20	0.19	0.17	0.15	0.14	0.13	0.12	0.11	0.10
	M2					1330	1329	1317	1330	1325	1329	1330	1317	1330	1330	1325	1325	1330
B 4110DB	P1	0.69	0.59	0.50	0.43													
	M2	1330	1326	1328	1330													
B 4115DA	P1						0.39	0.33	0.28	0.25	0.24	0.21	0.19	0.17	0.16	0.15	0.14	0.12
	M2						1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670
B 4115DB	P1	0.83	0.74	0.63	0.55	0.46												
	M2	1601	1670	1670	1670	1670												
C 4145DC	P1	1.73	1.48	1.25	1.09	0.92	0.78	0.66	0.56	0.50	0.48	0.42	0.38	0.34	0.32	0.30	0.28	0.25
	M2	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
D 4160DB	P1	2.68	2.30	1.95	1.69	1.43	1.21	1.02	0.87	0.78	0.74	0.66	0.59	0.53	0.50	0.47	0.43	0.38
	M2	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170	5170
D 4165DB	P1			2.18	1.89	1.60	1.35	1.14	0.98	0.87	0.83	0.73	0.66	0.59	0.56	0.52	0.48	0.43
	M2			5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780
D 4165DC	P1	3.00	2.30															
	M2	5780	5169															
E 4170DC	P1	3.98	3.42	2.89	2.51	2.12	1.79	1.51	1.30	1.16	1.10	0.97	0.87	0.79	0.74	0.70	0.64	0.57
	M2	7679	7680	7674	7680	7675	7675	7651	7680	7680	7680	7650	7636	7680	7676	7680	7680	7680
E 4175DC	P1	4.19	3.60	3.05	2.64	2.23	1.89	1.60	1.37	1.22	1.16	1.03	0.92	0.83	0.78	0.73	0.67	0.60
	M2	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090

Helical Buddybox Speed Reducer Dimension Sheets



Size	d1	u1	s11	L	C	E	Q	Q1	H	b2	M	V1	V3	LN	D	D1	M1	LA	N	S1	Weight [kg]
	L1	v1	m1	DC	Z	K	d	F1	x E1	f2	P1	V2	V4	P LX	b t	D2	m n	AE° R	S l	l	
AA 4090 AA 4095	14	5	M5	231	108	157	15.5	27	302	100	120	13	13	217	30	65	57	120	4	M10	
		16			166	119	180		10					3	8		1.3	0	M10		27
	25	16	10	150	20	15	14	56	140	3.5	5	26	13	306	33.3	31.4	18	72.5	20	20	
A 4100 A 4105	14	5	M5	252	117	164	21.5	29	323	130	134	14	14	239	40	85	63	155	6	M12	
		16			195	131	190		12					3	12		1.85	30	M10		34
	25	16	10	150	20	20	18	66	150	4	5	28	14	345	43.3	42.5	24	90	20	22	
B 4110 B 4115 B 4125	19	6	M6	306	145	203	35	31	409	150	160	17	17	296	60	100	75	175	6	M16	
		21.5			228	163	220							3	18		2.15	30	M12		63
	35	25	12	204	25	20	18	86	190	4	5	32	17	419	64.4	63	30	105	22	26	
C 4145 C 4155	22	6	M8	378	171	242	35	41	479	180	192	23	63	346	70	110	100	212	6	M20	
		24.5			292	193	270							3	29		2.65	30	M16		112
	40	32	16	230	30	25	22	97	220	5	5	46	34	488	74.9	73	37	130	30	35	
D 4160 D 4165	30	8	M8	454	214	293	51	45	608	210	218	25	67	436	90	130	110	255	6	M24	
		33			342	244	324							5	25		3.15	30	M20		204
	45	45	16	318	35	32	26	114	250	5	7	55	67	616	95.4	93.5	37	150	35	40	
E 4170 E 4175	35	10	M8	508	240	332	60	50	682	240	238	25	72	490	100	150	110	280	8	M24	
		38			376	272	360							5	28		3.15	22.5	M20		275
	55	50	16	362	45	38	33	127	300	5	7	56	75	670	106	104	37	165	35	40	

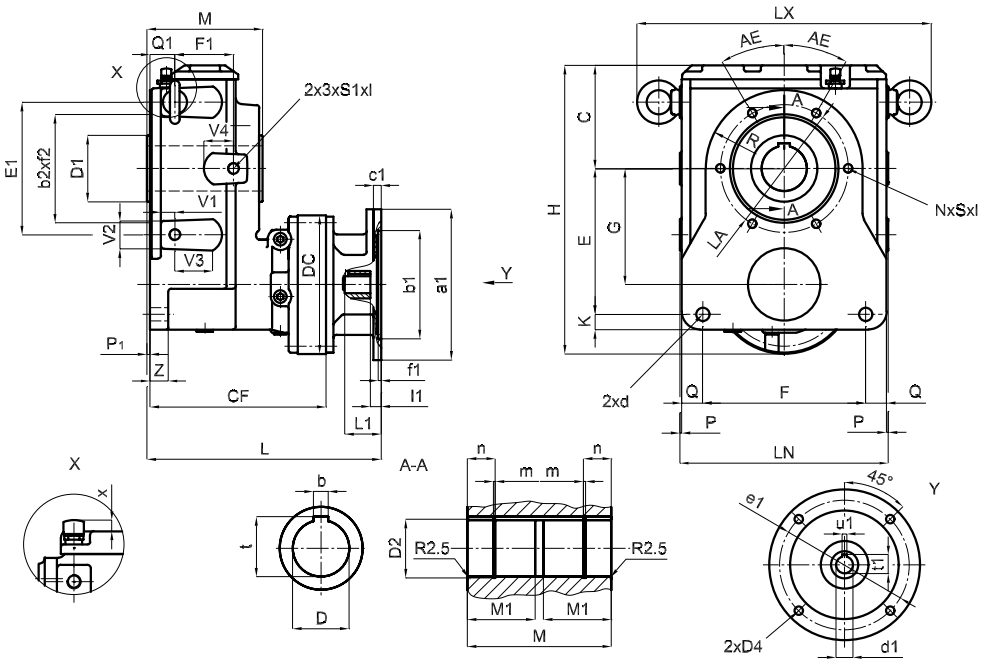
Example - EHY-C4155EY3-249



Size	CF	L	d1	L1	u1	t1	v1	s11	m1	Weight [kg]
AA4090DA AA4095DA	214	272	12	25	4	13.5	18	M4	8	28.5
A 4100DA A 4105DA	243	301	12	25	4	13.5	18	M4	8	36
B 4110DA B 4115DA	282	340	12	25	4	13.5	18	M4	8	65
B 4110DB B 4115DB	294	359	14	25	5	16	16	M5	10	69
C 4145DC	369	426	14	25	5	16	16	M5	10	114
D 4160DB D 4165DB	421	480	14	25	5	16	16	M5	10	207
D 4160DC D 4165DC	423	503	19	35	6	21.5	25	M6	12	214
E4170DC E4175DC	460	540	19	35	6	21.5	25	M6	12	278

Example
EHY-C4145DCEY3-578

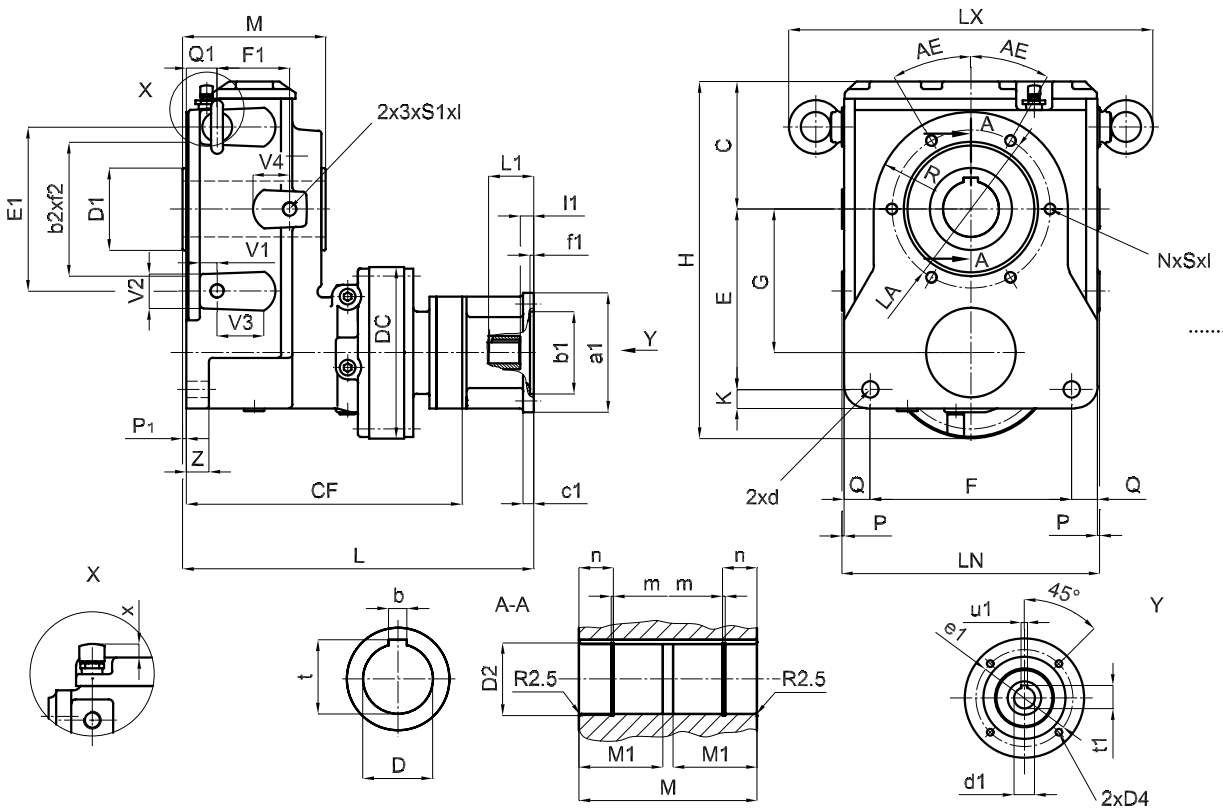
Size	DC	C Z	E G K	Q F d	Q1 F1	H x E1	b2 f2	M P1	V1 V2	V3 V4	LN P LX	D b t	D1 D2	M1 m n	LA AE° R	N S l	S1 l
AA4090DA AA4095DA	150	107.5 20	157 119 15	15.5 180 14	27 56	301.5 10 140	100 3.5	120 5	13 26	13 13	217 3 306	30 8 33.3	65 31.4	57 1.3 18	120 0 72.5	4 M10 20	M10 20
A 4100DA A 4105DA	150	117 20	163.5 130.5 20	21.5 190 18	29 66	322.5 12 150	130 4	134 5	14 28	14 14	239 3 345	40 12 43.3	85 42.5	63 1.85 24	155 30 90	6 M10 20	M12 22
B 4110DA B 4115DA B 4110DB B 4115DB	204	144.5 25	202.5 162.5 20	35 220 18	31 86	409 190	150 4	160 5	17 32	17 17	296 3 419	60 18 64.4	100 63	75 2.15 30	175 30 105	6 M12 22	M16 26
C 4145DC	230	171 30	242 192.5 25	35 270 22	41 97	478.5 220	180 5	192 5	23 46	63 34	346 3 488	70 20 74.9	110 73	100 2.65 37	212 30 130	6 M16 30	M20 35
D 4160DB D 4165DB D 4160DC D 4165DC	300	214 35	293 244 32	51 324 26	45 114	608 250	210 5	218 7	25 55	67 67	436 5 616	90 25 95.4	130 93.5	110 3.15 37	255 30 150	6 M20 35	M24 40
E4170DC E4175DC	340	240 45	332 272 38	60 360 33	50 127	682 300	240 5	238 7	25 56	72 75	490 5 670	100 28 106.4	150 103.5	110 3.15 37	280 22.5 165	8 M20 35	M24 40



Size	Input Element	a1	b1	c1	d1	D4	e1	f1	l1	L	L1	u1	t1	Weight [kg]
AA 4090 AA 4095	63/A140	140	95	11	11	9	115	4.5	6	231	23	4	12.8	29
	71/A160	160	110	11	14	9	130	4.5	9	231	30	5	16.3	29
	80/C120	120	80	12	19	6.6	100	4.5	12	257	40	6	21.8	29
	80/C160	160	110	12	19	9	130	4.5	12	257	40	6	21.8	31
	90/C140	140	95	12	24	9	115	4.5	14	257	50	8	27.3	31
	90/C160	160	110	12	24	9	130	4.5	14	257	50	8	27.3	31
A 4100 A 4105	71/A160	160	110	11	14	9	130	4.5	9	260	30	5	16.3	34
	80/C120	120	80	12	19	6.6	100	4.5	12	286	40	6	21.8	35
	80/C160	160	110	12	19	9	130	4.5	12	286	40	6	21.8	40
	90/C140	140	95	12	24	9	115	4.5	14	286	50	8	27.3	43
	90/C160	160	110	12	24	9	130	4.5	14	286	50	8	27.3	44
	100/112/C160	160	110	14	28	9	130	5	18	296	60	8	31.3	49
B 4110 B 4115 B 4125	80/A200	200	130	13	19	11	165	4.5	12	311	40	6	21.8	66
	90/A200	200	130	13	24	11	165	4.5	14	311	50	8	27.3	69
	100/112/C160	160	110	14	28	9	130	5	18	321	60	8	31.3	70
C 4145 C 4155 D 4165	90/A200	200	130	11	24	11	165	4.5	14	378	50	8	27.3	116
	100/112/A250	250	180	13	28	14	215	5	18	388	60	8	31.3	118
	132/A300	300	230	17	38	14	265	5	23	414	80	10	41.3	212
	160/A350	350	250	16	42	18	300	6	47	493	110	12	45.3	217

Size	DC	C CF Z	E G K	Q F d	Q1 F1	H x E1	b2 f2	M P1	V1 V2	V3 V4	LN P LX	D b t	D1 D2	M1 m n	LA AE° R	N S l	S1 l
AA 4090 AA 4095	150	107.5 166 20	157 119 15	15.5 180 14	27 56	301.5 10 140	100 3.5	120 5	13 26	13 13	217 3 306	30 8 33.3	65 31.4	57 1.3 18	120 0 72.5	4 M10 20	M10 20
A 4100 A 4105	150	117 195 20	163.5 130.5 20	21.5 190 18	29 66	322.5 12 150	130 4	134 5	14 28	14 14	239 3 345	40 12 43.3	85 42.5	63 1.85 24	155 30 90	6 M10 20	M12 22
B 4110 B 4115 B 4125	204	144.5 228 25	202.5 162.5 20	35 220 18	31 86	409 190	150 4	160 5	17 32	17 17	296 3 419	60 18 64.4	100 63	75 2.15 30	175 30 105	6 M12 22	M16 26
C 4145 C 4155	230	171 292 30	242 192.5 25	35 270 22	41 97	478.5 220	180 5	192 5	23 46	63 34	346 3 488	70 20 74.5	110 73	100 2.65 37	212 30 130	6 M16 30	M20 35
D 4160 D 4165	300	214 342 35	293 244 32	51 324 26	45 114	608 250	210 5	218 7	25 55	67 67	436 5 616	90 25 95.4	130 93.5	110 3.15 37	255 30 150	6 M20 35	M24 40

Example - EHYX-C4155EY3-249/100/112/A250

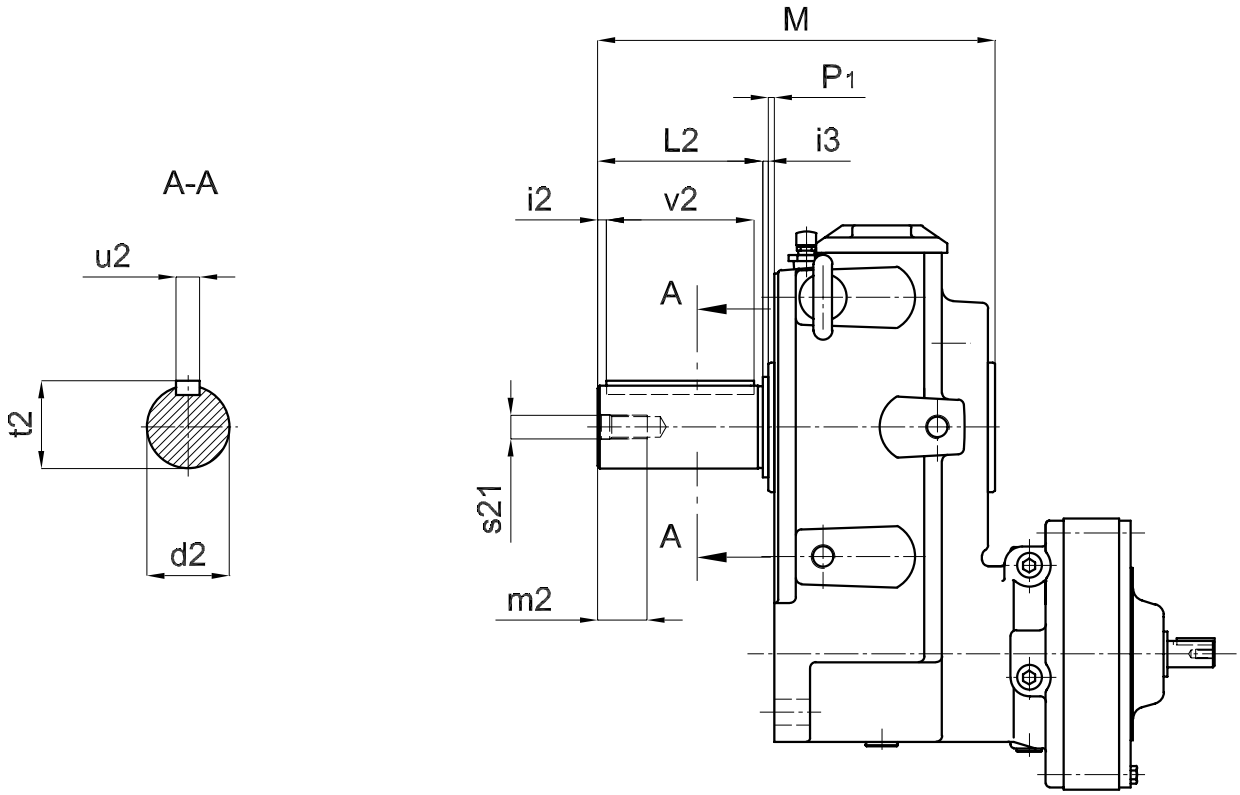


Size	DC	C Z	E G K	Q F d	Q1 F1	H x E1	b2 f2	M P1	V1 V2	V3 V4	LN P LX	D b t	D1 D2	M1 m n	LA AE° R	N S l	S1 l
AA4090DA AA4095DA	150	107.5 20	157 119 15	15.5 180 14	27 56	301.5 10 140	100 3.5	120 5	13 26	13 13	217 3 306	30 8 33.3	65 31.4	57 1.3 18	120 0 72.5	4 M10 20	M10 20
A 4100DA A 4105DA	150	117 20	163.5 130.5 20	21.5 190 18	29 66	322.5 12 150	130 4	134 5	14 28	14 14	239 3 345	40 12 43.3	85 42.5	63 1.85 24	155 30 90	6 M10 20	M12 22
B 4110DA B 4115DA B 4110DB B 4115DB	204	144.5 25	202.5 162.5 20	35 220 18	31 86	409 190	150 4	160 5	17 32	17 17	296 3 419	60 18 64.4	100 63	75 2.15 30	175 30 105	6 M12 22	M16 26
C 4145DC	230	171 30	242 192.5 25	35 270 22	41 97	478.5 220	180 6	192 5	23 46	63 34	346 3 488	70 20 74.9	110 73	90 2.65 37	212 30 130	6 M16 30	M20 35
D 4160DB D 4165DB D 4160DC D 4165DC	300	214 35	293 244 32	51 324 26	45 114	608 250	210 6	218 7	25 55	67 67	436 5 616	90 25 95.4	130 93.5	110 3.15 37	255 30 150	6 M20 35	M24 40
E4170DC E4175DC	340	240 45	332 272 38	60 360 33	50 127	682 300	240 6	238 7	25 56	72 75	490 5 670	100 28 106.4	150 103.5	110 3.15 37	280 22.5 165	8 M20 35	M24 40

Input Element

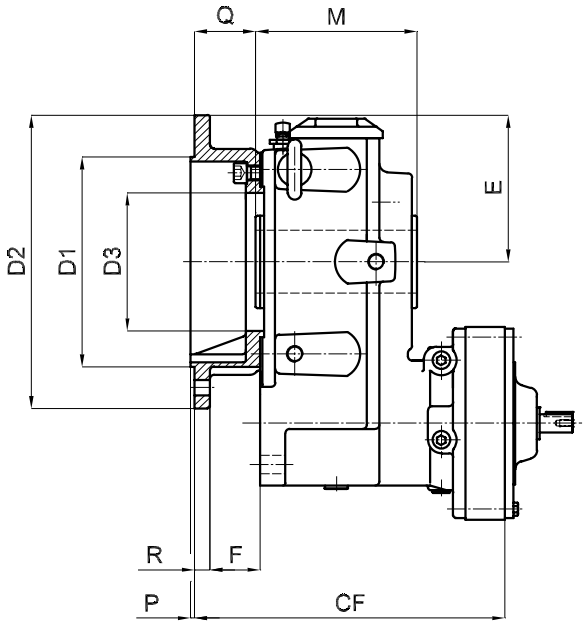
Size	Input Element	a1	b1	c1	d1	D4	e1	f1	l1	CF	L	L1	u1	t1	Weight [kg]
AA4090DA AA4095DA	63/A140	140	95	11	11	9	115	4.5	7	214	276	23	4	12.8	31
	71/C105	105	70	11	14	6.6	85	4.5	9	214	276	30	5	16.3	30.5
	71/C140	140	95	11	14	9	115	4.5	9	214	276	30	5	16.3	31
A 4100DA A 4105DA	63/A140	140	95	11	11	9	115	4.5	7	243	305	23	4	12.8	36.5
	71/C105	105	70	11	14	6.6	85	4.5	9	243	305	30	5	16.3	36
	71/C140	140	95	11	14	9	115	4.5	9	243	305	30	5	16.3	36.5
B 4110DA B 4115DA	63/A140	140	95	11	11	9	115	4.5	7	282	344	23	4	12.8	66.5
	71/C105	105	70	11	14	6.6	85	4.5	9	282	344	30	5	16.3	66
	71/C140	140	95	11	14	9	115	4.5	9	282	344	30	5	16.3	66.5
B 4110DB B 4115DB	63/A140	140	95	11	11	9	115	4.5	7	294	359	23	4	12.8	70
	71/A160	160	110	11	14	9	130	4.5	9	294	359	30	5	16.3	70
	80/C120	120	80	12	19	6.6	100	4.5	12	294	385	40	6	21.8	70
	80/C160	160	110	12	19	9	130	4.5	12	294	385	40	6	21.8	71.5
	90/C140	140	95	12	24	9	115	4.5	14	294	385	50	8	27.3	70.5
	90/C160	160	110	12	24	9	130	4.5	14	294	385	50	8	27.3	71.5
C 4145DC	71/A160	160	110	11	14	9	130	4.5	9	369.5	434	30	5	16.3	120
	80/C120	120	80	12	19	6.6	100	4.5	12	369.5	460	40	6	21.8	120
	80/C160	160	110	12	19	9	130	4.5	12	369.5	460	40	6	21.8	121.5
	90/C140	140	95	12	24	9	115	4.5	14	369.5	460	50	8	27.3	120.5
	90/C160	160	110	12	24	9	130	4.5	14	369.5	460	50	8	27.3	121.5
	100/112/C160	160	110	14	28	9	130	5	18	369.5	470	60	8	31.3	122
D 4160DB D 4165DB	71/A160	160	110	11	14	9	130	4.5	9	421	488	30	5	16.3	222.5
	80/C120	120	80	12	19	6.6	100	4.5	12	421	514	40	6	21.8	222.5
	80/C160	160	110	12	19	9	130	4.5	12	421	514	40	6	21.8	224
	90/C140	140	95	12	24	9	115	4.5	14	421	514	50	8	27.3	223
	90/C160	160	110	12	24	9	130	4.5	14	421	514	50	8	27.3	224
	100/112/C160	160	110	14	28	9	130	5	18	421	524	60	8	31.3	224.5
D 4160DC D 4165DC	80/A200	200	130	13	19	11	165	4.5	12	423	504	40	6	21.8	230.5
	90/A200	200	130	13	24	11	165	4.5	14	423	504	50	8	27.3	230.5
	100/112/C160	160	110	14	28	9	130	5	18	423	518	60	8	31.3	231.5
E4170DC E4175DC	80/A200	200	130	13	19	11	165	4.5	12	460	577	40	6	21.8	310.5
	90/A200	200	130	13	24	11	165	4.5	14	460	577	50	8	27.3	310.5
	100/112/C160	160	110	14	28	9	130	5	18	460	587	60	8	31.3	311.5

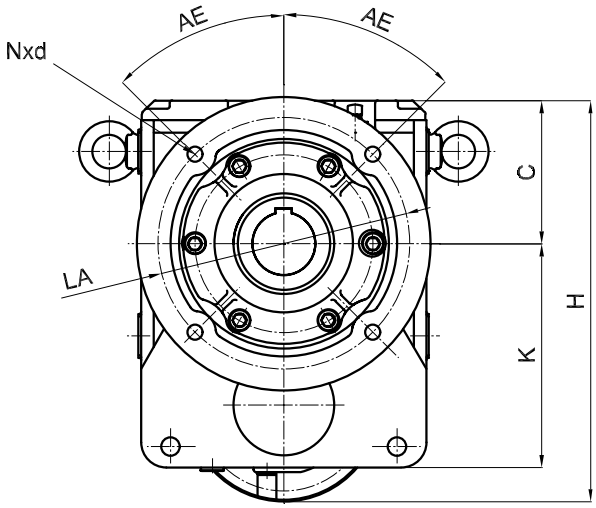
Example - EHYX-C4145DCEY3-424/100/112/C160



size	d2	t2	u2	L2	m2	s21	v2	i2	i3	P1	M
AA4090 AA4905	30	33	8	60	22	M10	50	3.5	5	5	185
A4100 A4105	40	43	12	80	36	M16	70	3	5	5	219
B4110 B4115 B4125	60	64	18	120	42	M20	100	10	5	5	285
C4145 C4155	70	74.5	20	140	42	M20	120	7.5	5	5	337
D4160 D4165	90	95	25	170	50	M24	150	5	10	7	398
E4170 E4175	110	116	28	210	50	M24	180	10	17	7	465

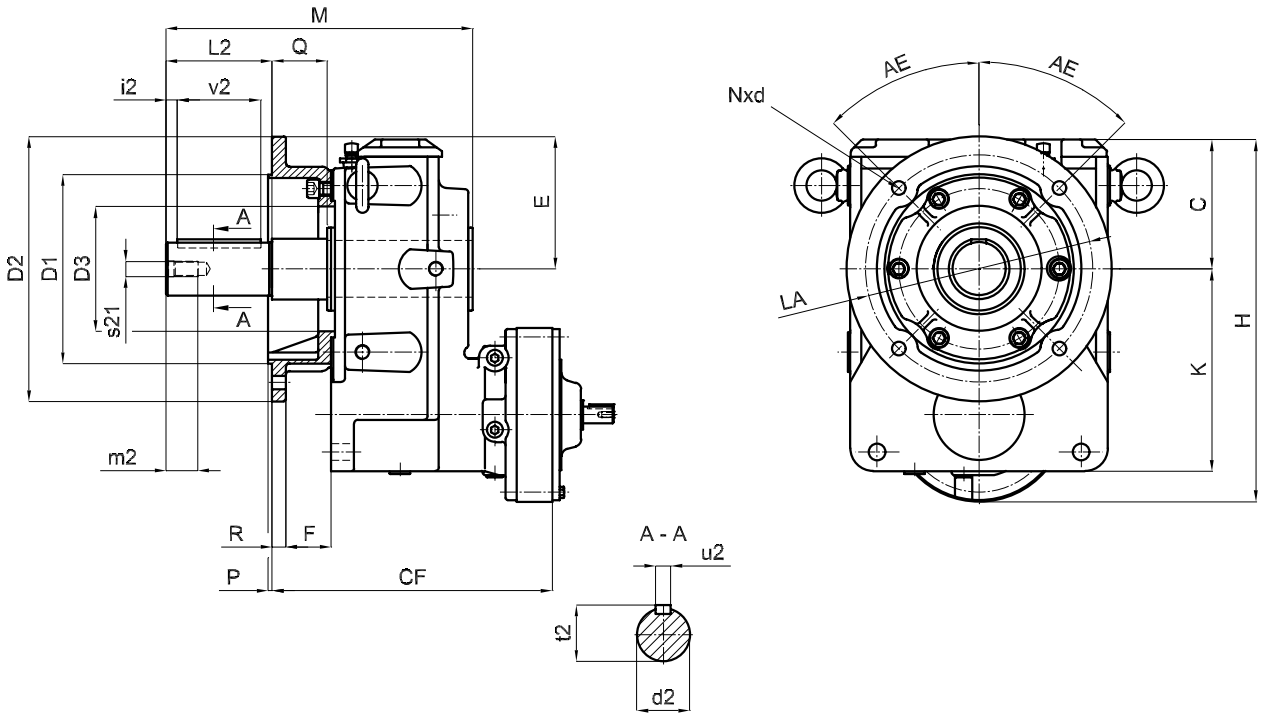
Example - EHH-C4155EY3-102





Size	CF	E	C	K	M	Q	F	R	P	D1	D2	D3	LA	N	d	AE°	H
AA4090 AA4095	218	100	108	172	120	47	40	12	3.5	130	200	90	165	4	11	45	302
A4100 A4105	260	125	117	184	134	60	50	15	4	180	250	120	215	4	14	45	323
B4110 B4115 B4125	294	150	145	223	160	61	50	16	4	230	300	140	265	4	14	45	410
C4145 C4155	370	175	171	267	192	73	60	18	5	250	350	165	300	4	18	45	479
D4160 D4165	429	225	214	325	218	80	65	22	5	350	450	195	400	8	18	22.5	608
E4170 E4175	463	225	240	370	238	80	65	22	5	350	450	220	400	8	18	22.5	682

Example - EHV-C4155EY3-102



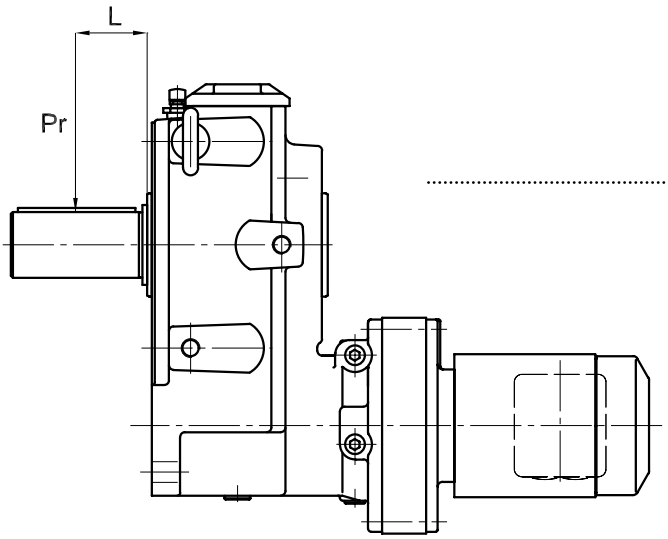
Size	d2	i2	t2	s21	CF	H	K	Q	P	D2	N	AE °
	L2	v2	u2	m2	M	E	C	F	R	D1 D3	d	LA
AA 4090 AA 4095	30 60	3.5 50	33 8	M10 22	218 227	301.2 100	172 107.8	47 40	3.5 12	200 130 90	4 11	45 165
A 4100 A 4105	40 80	3 70	43 12	M16 36	260 274	323 125	184 117	60 50	4 15	250 180 120	4 14	45 215
B 4110 B4115 B4125	60 120	10 100	64 18	M20 42	294 341	409 150	223 144.5	61 50	4 16	300 230 140	4 14	45 265
C 4145 C4155	70 140	7.5 120	74.5 20	M20 42	370 405	478.5 175	267 171	73 60	5 18	350 250 165	4 18	45 300
D 4160 D4165	90 170	5 150	95 25	M24 50	429 468	608 225	325 214	80 65	5 22	450 350 195	8 18	22.5 400
E 4170 E4175	110 210	10 180	116 28	M24 50	463 528	682 225	370 240	80 65	5 22	450 350 220	8 18	22.5 400

Example - EHV-C4155EY3-102

Maximum output torque (M_{2max})[Nm] and allowable overhung load (P_{r0}) [N] solid shaft (one side, without flange, with standard bearings.

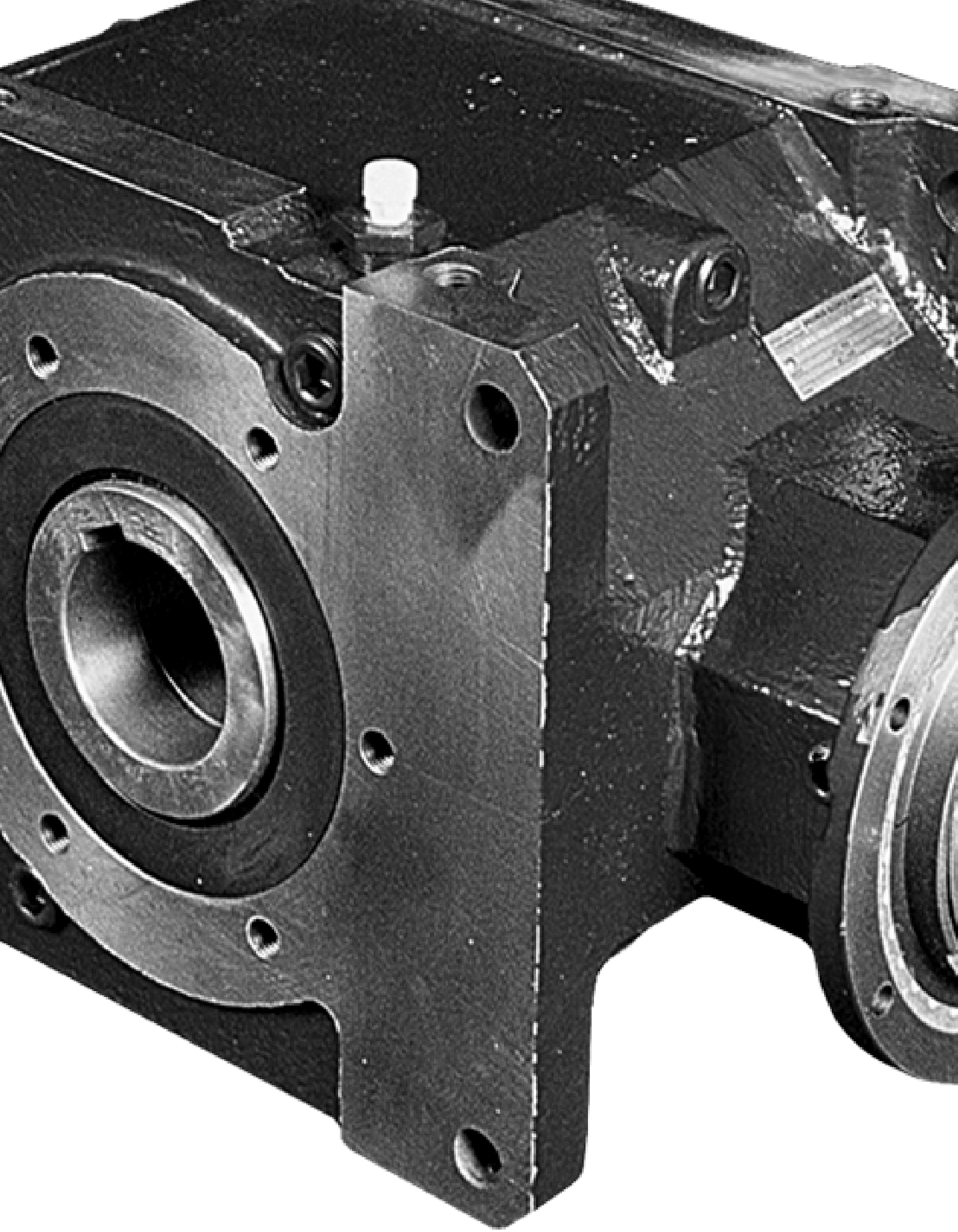
Size	M_{2max}[Nm]		5rpm	10rpm	20rpm	30rpm	35rpm	45rpm	50rpm	60rpm	75rpm	90rpm
AA (30x60)	412	P_{r0}	5766	5491	4138	3543	3293	2975	2871	2698	2448	2276
A (40x80)	833	P_{r0}	9575	9575	8448	6759	6759	6759	5914	5914	5914	5914
B (60x120)	1670	P_{r0}	9833	9833	8000	6400	6400	6400	6000	6000	6000	6000
C (70x140)	3330	P_{r0}	24143	16335	10916	8526	7028	7028	7028	7028	7028	7028
D (90x170)	5780	P_{r0}	30625	20625	11484	10703	10703	10703	10703	10703	10703	10703
E (110x210	8890	P_{r0}	35507	26957	16304	14203	12754	12754	12754	12754	12754	12754

limited by the shaft



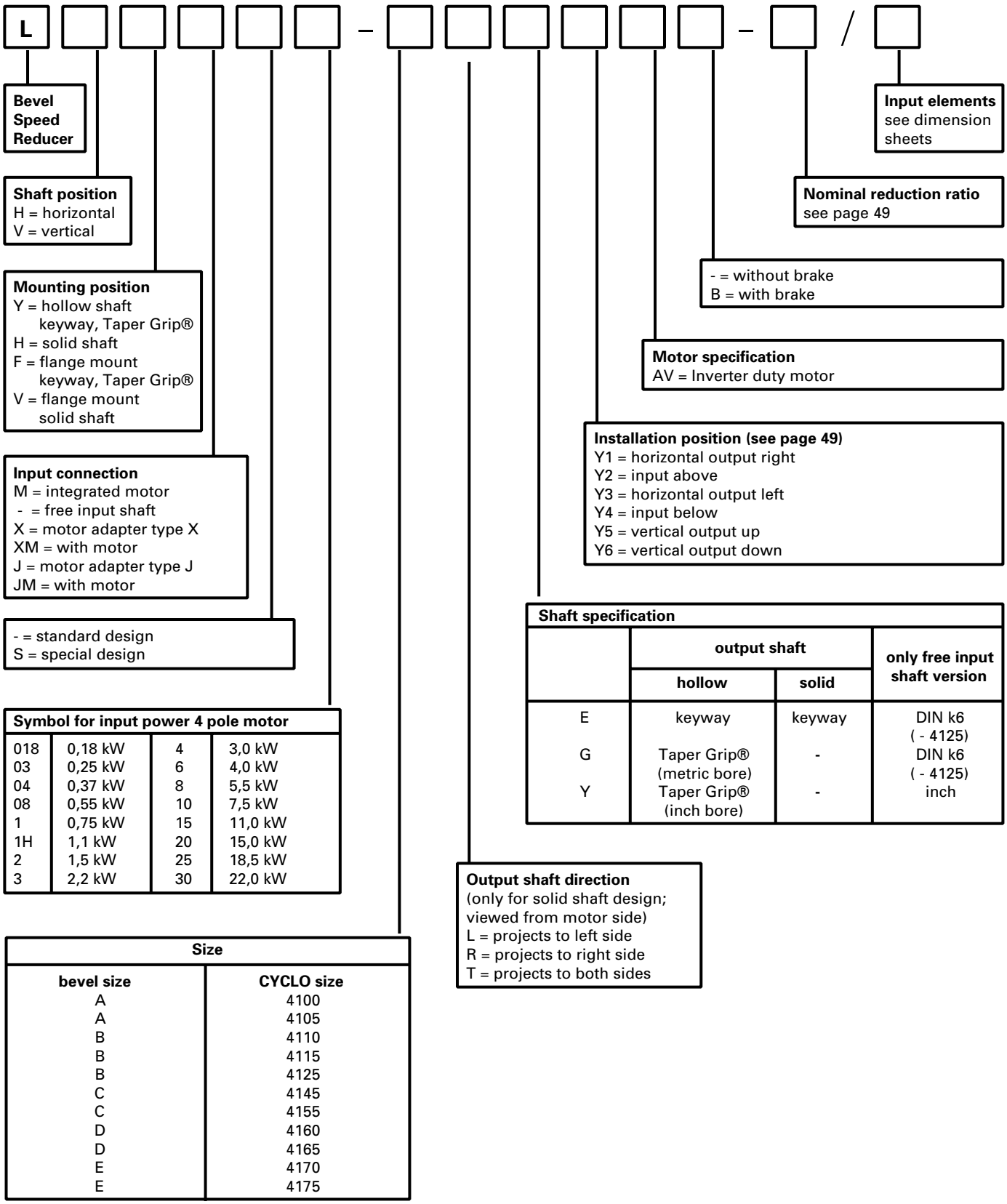
Correction factor L_f for load position

L [mm]	AA 30x60	A 40x80	B 60x120	C 70x140	D 90x170	E 110x210
5	0.82	0,76	0.64	0.58		
10	0.85	0.79	0.67	0.61	0.49	
15	0.88	0.82	0.7	0.64	0.52	
20	0.91	0.85	0.73	0.67	0.55	0.4
25	0.94	0.88	0.76	0.7	0.58	0.43
30	0.97	0.91	0.79	0.73	0.61	0.46
35	1	0.94	0.82	0.76	0.64	0.49
40	1.03	0.97	0.85	0.79	0.67	0.52
45	1.06	1	0.88	0.82	0.7	0.55
50	1.09	1.03	0.91	0.85	0.73	0.58
60	1.15	1.09	0.97	0.91	0.79	0.64
70		1.15	1.03	0.97	0.85	0.7
80		1.21	1.09	1.03	0.91	0.76
90			1.15	1.09	0.97	0.82
100			1.21	1.15	1.03	0.88
120			1.33	1.27	1.15	1
140				1.39	1.27	1.12
160					1.39	1.24
180					1.51	1.36
200						1.48
225						1.63



Bevel Buddybox

Bevel Buddybox Type Designation



Symbol for input power 4 pole motor			
018	0,18 kW	4	3,0 kW
03	0,25 kW	6	4,0 kW
04	0,37 kW	8	5,5 kW
08	0,55 kW	10	7,5 kW
1	0,75 kW	15	11,0 kW
1H	1,1 kW	20	15,0 kW
2	1,5 kW	25	18,5 kW
3	2,2 kW	30	22,0 kW

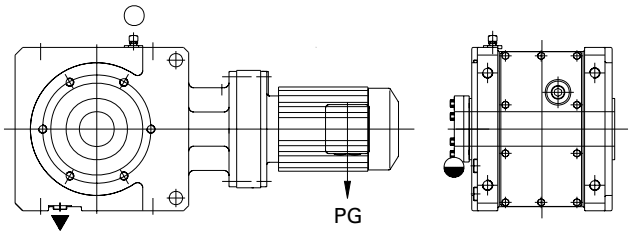
Size	
bevel size	**CYCLO size**
A	4100
A	4105
B	4110
B	4115
B	4125
C	4145
C	4155
D	4160
D	4165
E	4170
E	4175

Bevel Buddybox Type Designation

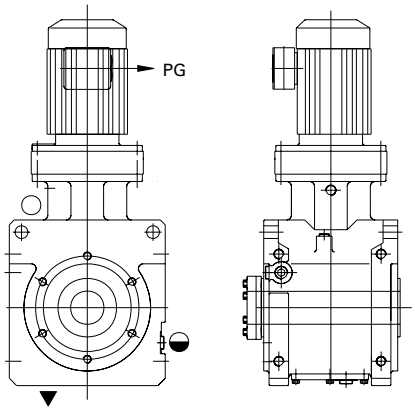
i_T (i_Gxi_C) Nominal total ratio																			
bevel portion			CYCLO gear portion																
	i_G	i_C	3	5	6	8	11	13	15	17	21	25	29	35	43	51	59	71	87
A - E	3.500	$i_{T\ nominal}$	10.5	17.5	21	28	39	46	53	60	74	88	102	123	151	179	207	249	305
		$i_{T\ exact}$	10.50	17.50	21.00	28.00	38.50	45.50	52.50	59.50	73.50	87.50	101.50	122.50	150.50	178.50	206.50	248.50	304.50
	i_G	i_C	104	121	143	165	195	231	273	319	357	377	425	473	525	559	595	649	731
A - E	3.500	$i_{T\ nominal}$	364	424	501	578	683	809	956	1117	1250	1320	1488	1656	1874	1957	2083	2272	2559
		$i_{T\ exact}$	364.00	423.50	500.50	577.50	682.50	808.50	955.50	1116.50	1249.50	1319.50	1487.50	1655.50	1837.50	1956.50	2082.50	2271.50	2558.50

Bevel Buddybox

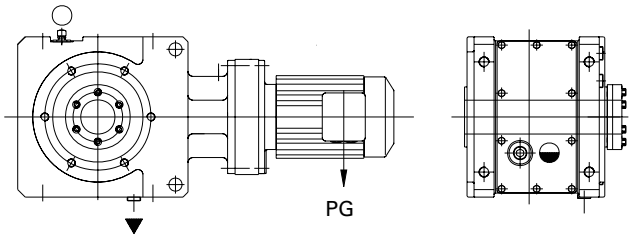
Y1



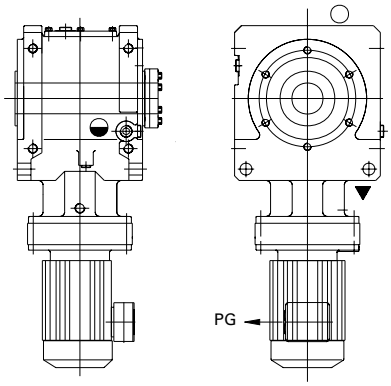
Y2



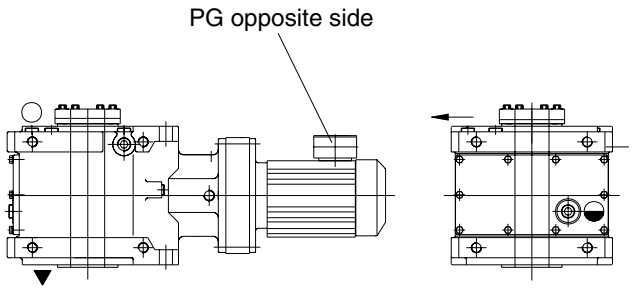
Y3



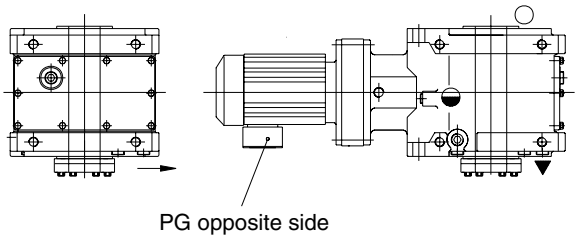
Y4



Y5



Y6



Oil inlet

Oil level (Overflow hole)

Oil outlet

1. Cyclo Drive for Y2 and Y4 is grease lubricated, so oil supply and discharge are unnecessary.

2. Cable outlet

0.18kW motor type F63M/4 (B) (n1 =1420 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
0.55	2579	1.31	018	C4145DC	2559
0.63	2290	1.47	018	C4145DC	2272
0.68	2099	1.58	018	C4145DC	2083
0.73	1972	1.68	018	C4145DC	1957
0.77	1852	1.79	018	C4145DC	1838
0.86	1669	2.00	018	C4145DC	1656
0.95	1500	1.10	018	B4115DA	1488
1.08	1330	1.26	018	B4115DA	1320
1.14	1260	1.31	018	B4115DA	1250
1.27	1126	1.16	018	B4110DA	1117
1.49	963	1.37	018	B4110DA	956
1.76	815	1.63	018	B4110DA	809
2.08	688	1.21	018	A4105DA	683
2.46	583	1.16	018	A4100DA	578
2.83	505	1.31	018	A4100DA	501
3.35	427	1.58	018	A4100DA	424
3.90	367	1.84	018	A4100DA	364
4.66	332	1.86	018	A4100	305
5.70	271	1.86	018	A4100	249
81.14	19	14.46	018	A4105	17.5
135.24	11	14.46	018	A4105	10.5

0.25kW motor type F63M/4 (B) (n1 = 1380 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
0.54	3686	1.40	03	D4160DB	2559
0.61	3272	1.58	03	D4160DB	2272
0.66	3000	1.10	03	C4145DC	2083
0.71	2819	1.18	03	C4145DC	1957
0.75	2647	1.25	03	C4145DC	1838
0.83	2385	1.40	03	C4145DC	1656
0.93	2143	1.55	03	C4145DC	1488
1.05	1901	1.77	03	C4145DC	1320
1.10	1800	1.84	03	C4145DC	1250
1.24	1609	2.06	03	C4145DC	1117
1.44	1377	1.21	03	B4115DA	956
1.71	1165	1.14	03	B4110DB	809
2.02	984	1.36	03	B4110DB	683
2.39	832	1.58	03	B4110DB	578
2.75	722	1.84	03	B4110DB	501
3.25	611	1.10	03	A4100DA	424
3.79	524	1.29	03	A4100DA	364
4.52	475	1.34	03	A4100	305
4.52	475	1.75	03	A4105	305
5.54	388	1.34	03	A4100	249
5.54	388	1.91	03	A4105	249
6.67	322	1.58	03	A4100	207
6.70	322	2.31	03	A4105	207
7.71	279	1.85	03	A4100	179
78.86	27	11.00	03	A4105	17.5
131.43	16	11.00	03	A4105	10.5

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y2, Y4 position ratings.

0.37kW motor type F71M/4 (B) (n1= 1405 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
0.55	5358	1.42	04	E4170DC	2559
0.62	4757	1.22	04	D4165DB	2272
0.67	4361	1.19	04	D4160DB	2083
0.72	4097	1.27	04	D4160DB	1957
0.76	3848	1.34	04	D4160DB	1838
0.85	3467	1.49	04	D4160DB	1656
0.94	3115	1.67	04	D4160DB	1488
1.06	2764	1.22	04	C4145DC	1320
1.12	2617	1.27	04	C4145DC	1250
1.26	2339	1.42	04	C4145DC	1117
1.47	2002	1.67	04	C4145DC	956
1.74	1694	1.97	04	C4145DC	809
2.06	1430	1.16	04	B4115DB	683
2.43	1210	1.37	04	B4115DB	578
2.80	1049	1.27	04	B4110DB	501
3.31	888	1.49	04	B4110DB	424
3.86	762	1.75	04	B4110DB	364
4.59	691	0.91	04	A4100	305
4.59	691	1.25	04	A4105	305
4.59	691	1.68	04	B4110	305
5.62	564	0.91	04	A4100	249
5.62	564	1.29	04	A4105	249
5.62	564	1.91	04	B4110	249
6.76	469	1.07	04	A4100	207
6.76	469	1.58	04	A4105	207
6.76	469	2.58	04	B4110	207
7.82	405	1.25	04	A4100	179
7.82	405	1.74	04	A4105	179
9.27	342	1.59	04	A4100	151
9.27	342	2.41	04	A4105	151
11.38	279	1.70	04	A4100	123
80.29	39	7.43	04	A4105	17.5
133.81	24	7.43	04	A4105	10.5

0.55kW motor type F80S/4 (B) (n1 = 1385 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
0.61	7173	1.12	08	E4175DC	2272
0.66	6576	1.16	08	E4170DC	2083
0.71	6179	1.24	08	E4170DC	1957
0.75	5803	1.33	08	E4170DC	1838
0.84	5228	1.11	08	D4165DB	1656
0.96	4572	1.11	08	C4145DC	1448
1.05	4167	1.24	08	C4145DC	1320
1.11	3946	1.31	08	C4145DC	1250
1.24	3527	1.46	08	C4145DC	1117
1.45	3018	1.11	08	C4145DC	956
1.71	2554	1.31	08	C4145DC	809
2.03	2156	1.54	08	C4145DC	683
2.40	1825	1.83	08	C4145DC	578
2.76	1582	2.10	08	C4145DC	501
3.27	1339	1.24	08	B4115DB	424
3.80	1149	1.16	08	B4110DB	364
4.54	1042	0.80	08	A4105	305
4.54	1042	1.13	08	B4110	305
4.54	1042	1.60	08	B4115	305
5.56	850	0.87	08	A4105	249
5.56	850	1.28	08	B4110	249
5.56	850	1.70	08	B4115	249
6.69	707	0.72	08	A4100	207
6.69	707	1.06	08	A4105	207
6.69	707	1.73	08	B4110	207
7.74	611	0.84	08	A4100	179
7.74	611	1.17	08	A4105	179
7.74	611	1.87	08	B4110	179
9.17	516	1.07	08	A4100	151
9.17	516	1.62	08	A4105	151
11.26	420	1.14	08	A4100	123
11.26	420	1.79	08	A4105	123
13.58	348	1.68	08	A4100	102
15.74	301	1.91	08	A4100	88
79.14	59	5.00	08	A4105	17.5
131.90	36	5.00	08	A4105	10.5

0.75kW motor type F80M/4 (B) (n1 = 1395 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
0.84	7078	1.14	1	E4175DC	1656
0.94	6360	1.20	1	E4170DC	1488
1.06	5642	1.35	1	E4170DC	1320
1.12	5343	1.44	1	E4170DC	1250
1.25	4774	1.22	1	D4165DB	1117
1.46	4086	1.26	1	D4160DB	956
1.72	3458	1.50	1	D4160DB	809
2.04	2919	1.14	1	C4145DC	683
2.41	2471	1.35	1	C4145DC	578
2.78	2141	1.55	1	C4145DC	501
3.29	1812	1.79	1	C4145DC	424
3.83	1556	2.15	1	C4145DC	364
4.57	1410	0.83	1	B4110	305
4.57	1410	1.18	1	B4115	305
4.60	1410	2.36	1	C4145	305
5.60	1151	0.94	1	B4110	249
5.60	1151	1.25	1	B4115	249
5.60	1151	2.70	1	C4145	249
6.74	957	0.78	1	A4105	207
6.74	957	1.27	1	B4110	207
6.74	957	1.74	1	B4115	207
7.79	828	0.86	1	A4105	179
7.79	828	1.37	1	B4110	179
7.79	828	2.01	1	B4115	179
9.24	698	0.78	1	A4100	151
9.24	698	1.19	1	A4105	151
9.24	698	1.63	1	B4110	151
11.34	569	0.84	1	A4100	123
11.34	569	1.32	1	A4105	123
11.34	569	2.01	1	B4110	123
13.68	472	1.23	1	A4100	102
13.68	472	1.75	1	A4105	102
15.85	407	1.40	1	A4100	88
15.85	407	2.00	1	A4105	88
18.85	342	1.68	1	A4100	74
23.25	277	1.68	1	A4100	60
26.32	245	1.85	1	A4100	53
30.33	213	1.87	1	A4100	46
35.77	180	2.18	1	A4100	39
79.71	80	3.67	1	A4105	17.5
132.86	48	3.67	1	A4105	10.5

1.1kW motor type F90S/4 (B) (n1 = 1410 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
1.26	6928	1.10	1H	E4170DC	1117
1.47	5930	1.29	1H	E4170DC	956
1.74	5018	1.15	1H	D4165DB	809
2.06	4236	1.22	1H	D4160DB	683
2.44	3585	1.44	1H	D4160DB	578
2.81	3107	1.67	1H	D4160DB	501
3.33	2630	1.23	1H	C4145DC	424
3.87	2258	1.48	1H	C4145DC	364
4.62	2046	0.81	1H	B4115	305
4.62	2046	1.63	1H	C4145	305
5.66	1670	0.85	1H	B4115	249
5.66	1670	1.84	1H	C4145	249
6.81	1389	0.87	1H	B4110	207
6.81	1389	1.20	1H	B4115	207
6.80	1389	2.40	1H	C4145	207
7.88	1201	0.94	1H	B4110	179
7.88	1201	1.39	1H	B4115	179
7.90	1201	2.58	1H	C4145	179
9.34	1013	0.81	1H	A4105	151
9.34	1013	1.11	1H	B4110	151
9.34	1013	1.64	1H	B4115	151
11.46	825	0.90	1H	A4105	123
11.46	825	1.37	1H	B4110	123
11.46	825	2.02	1H	B4115	123
13.82	684	0.84	1H	A4100	102
13.82	684	1.19	1H	A4105	102
13.82	684	1.64	1H	B4110	102
16.02	590	1.00	1H	A4100	88
16.02	590	1.36	1H	A4105	88
16.02	590	1.86	1H	B4110	88
19.05	496	1.14	1H	A4100	74
19.05	496	1.68	1H	A4105	74
23.50	403	1.14	1H	A4100	60
23.50	403	2.00	1H	A4105	60
26.60	356	1.26	1H	A4100	53
26.60	356	2.34	1H	A4105	53
30.65	309	1.27	1H	A4100	46
30.65	309	2.28	1H	A4105	46
36.15	262	1.49	1H	A4100	39
36.15	262	2.38	1H	A4105	39
50.36	188	1.60	1H	A4100	28
67.14	141	1.60	1H	A4100	21
80.57	117	2.50	1H	A4105	17.5
134.29	70	2.50	1H	A4105	10.5

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y2, Y4 position ratings.

1.5kW motor type F90L/4 (B) (n1 = 1400 min-1)					
n2	M2mot Nm	fB (Budt)		Size	Ratio
1.73	6891	1.11	2	E4170DC	809
2.05	5818	1.32	2	E4170DC	683
2.42	4924	1.18	2	D4165DB	578
2.79	4268	1.21	2	D4160DB	501
3.30	3612	1.43	2	D4160DB	424
3.85	3101	1.67	2	D4160DB	364
4.59	2810	1.19	2	C4145	305
4.59	2810	1.62	2	D4160	305
5.62	2294	1.35	2	C4145	249
5.62	2294	1.45	2	C4155	249
5.62	2294	2.06	2	D4160	249
6.76	1907	0.87	2	B4115	207
6.76	1907	1.75	2	C4145	207
7.82	1649	1.01	2	B4115	179
7.82	1649	2.00	2	C4145	179
9.27	1391	0.82	2	B4110	151
9.27	1391	1.20	2	B4115	151
9.30	1391	2.03	2	C4145	151
11.38	1133	1.01	2	B4110	123
11.38	1133	1.47	2	B4115	123
11.40	1133	2.94	2	C4145	123
13.73	940	0.87	2	A4105	102
13.73	940	1.20	2	B4110	102
13.73	940	1.77	2	B4115	102
15.91	811	1.00	2	A4105	88
15.91	811	1.37	2	B4110	88
15.91	811	2.05	2	B4115	88
18.92	682	0.84	2	A4100	74
18.92	682	1.22	2	A4105	74
18.92	682	1.90	2	B4110	74
23.33	553	0.84	2	A4100	60
23.33	553	1.47	2	A4105	60
23.33	553	2.01	2	B4110	60
26.42	488	0.93	2	A4100	53
26.42	488	1.71	2	A4105	53
30.43	424	0.93	2	A4100	46
30.43	424	1.67	2	A4105	46
35.90	359	1.09	2	A4100	39
35.90	359	1.75	2	A4105	39
50.00	258	1.17	2	A4100	28
50.00	258	1.75	2	A4105	28
66.67	193	1.17	2	A4100	21
66.67	193	1.75	2	A4105	21
80.00	160	1.83	2	A4105	17.5
133.33	96	1.83	2	A4105	10.5

2.2kW motor type F100L/4 (B) (n1 = 1405 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
2.43	7196	1.12	3	E4175DC	578
2.80	6237	1.23	3	E4170DC	501
3.31	5278	1.45	3	E4170DC	424
3.86	4531	1.14	3	D4160DB	364
4.61	4107	0.81	3	C4145	305
4.61	4107	1.10	3	D4160	305
4.61	4107	1.41	3	D4165	305
5.64	3353	0.92	3	C4145	249
5.64	3353	0.99	3	C4155	249
5.64	3353	1.41	3	D4160	249
5.64	3353	1.72	3	D4165	249
6.79	2787	1.20	3	C4145	207
6.79	2787	1.60	3	D4160	207
7.85	2410	1.36	3	C4145	179
7.85	2410	1.38	3	C4155	179
7.85	2410	1.87	3	D4160	179
9.30	2033	0.82	3	B4115	151
9.30	2033	1.39	3	C4145	151
9.30	2033	1.64	3	C4155	151
11.42	1656	1.01	3	B4115	123
11.42	1656	2.01	3	C4145	123
13.77	1373	0.82	3	B4110	102
13.77	1373	1.21	3	B4115	102
13.80	1373	2.16	3	C4145	102
15.97	1185	0.93	3	B4110	88
15.97	1185	1.41	3	B4115	88
16.00	1185	2.59	3	C4145	88
18.99	996	0.84	3	A4105	74
18.99	996	1.30	3	B4110	74
18.99	996	1.67	3	B4115	74
23.42	808	1.00	3	A4105	60
23.42	808	1.37	3	B4110	60
23.42	808	2.06	3	B4115	60
26.51	714	1.17	3	A4105	53
26.51	714	1.64	3	B4110	53
30.54	619	1.14	3	A4105	46
30.54	619	1.64	3	B4110	46
36.03	525	1.19	3	A4105	39
36.03	525	1.68	3	B4110	39
50.18	377	0.80	3	A4100	28
50.18	377	1.19	3	A4105	28
50.18	377	1.68	3	B4110	28
66.90	283	0.80	3	A4100	21
66.90	283	1.19	3	A4105	21
66.90	283	1.68	3	B4110	21
80.29	234	1.25	3	A4105	17.5
80.29	234	2.30	3	B4115	17.5
133.81	140	1.25	3	A4105	10.5
133.81	140	2.30	3	B4115	10.5

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y2, Y4 position ratings.

3kW motor type F112S/4 (B) (n1 = 1425 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
3.36	7097	1.14	4	E4170DC	424
3.91	6092	1.26	4	E4170DC	364
4.67	5522	0.81	4	D4160	305
4.67	5522	1.05	4	D4165	305
4.67	5522	1.30	4	E4170	305
4.67	5522	1.46	4	E4175	305
5.72	4508	1.03	4	D4160	249
5.72	4508	1.28	4	D4165	249
5.72	4508	1.41	4	E4170	249
5.72	4508	1.79	4	E4175	249
6.88	3748	0.89	4	C4145	207
6.88	3748	1.18	4	D4160	207
6.88	3748	1.54	4	D4165	207
6.88	3748	1.75	4	E4170	207
7.96	3241	1.00	4	C4145	179
7.96	3241	1.03	4	C4155	179
7.96	3241	1.37	4	D4160	179
7.96	3241	1.78	4	D4165	179
9.44	2734	1.02	4	C4145	151
9.44	2734	1.22	4	C4155	151
9.44	2734	1.75	4	D4160	151
11.59	2227	1.50	4	C4145	123
11.59	2227	1.75	4	D4160	123
13.97	1847	0.90	4	B4115	102
13.97	1847	1.58	4	C4145	102
13.97	1847	1.80	4	C4155	102
16.19	1593	1.04	4	B4115	88
16.20	1593	1.92	4	C4145	88
16.20	1593	2.09	4	C4155	88
19.26	1340	0.95	4	B4110	74
19.26	1340	1.24	4	B4115	74
19.30	1340	2.21	4	C4145	74
23.75	1086	1.01	4	B4110	60
23.75	1086	1.51	4	B4115	60
23.75	1086	1.53	4	B4125	60
23.70	1086	2.99	4	C4145	60
26.89	960	1.20	4	B4110	53
26.89	960	1.58	4	B4115	53
26.89	960	1.62	4	B4125	53
30.98	833	1.20	4	B4110	46
30.98	833	1.56	4	B4115	46
30.98	833	1.62	4	B4125	46
36.54	706	1.23	4	B4110	39
36.54	706	1.61	4	B4115	39
50.89	507	1.23	4	B4110	28
50.89	507	1.61	4	B4115	28
67.86	380	1.23	4	B4110	21
67.86	380	1.61	4	B4115	21
81.43	315	0.92	4	A4105	17.5
81.43	315	1.69	4	B4115	17.5
135.71	189	0.92	4	A4105	10.5
135.71	189	1.69	4	B4115	10.5

4kW motor type F112M/4 (B) (n1 = 1420 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
4.66	7388	0.78	6	D4165	305
4.66	7388	1.00	6	E4170	305
4.66	7388	1.09	6	E4175	305
5.70	6032	0.96	6	D4165	249
5.70	6032	1.06	6	E4170	249
5.70	6032	1.34	6	E4175	249
6.86	5014	0.88	6	D4160	207
6.86	5014	1.15	6	D4165	207
6.86	5014	1.31	6	E4170	207
6.86	5014	1.61	6	E4175	207
7.93	4336	1.03	6	D4160	179
7.93	4336	1.33	6	D4165	179
7.93	4336	1.54	6	E4170	179
7.93	4336	1.86	6	E4175	179
9.40	3658	0.91	6	C4155	151
9.40	3658	1.31	6	D4160	151
9.40	3658	1.58	6	D4165	151
9.40	3658	1.80	6	E4170	151
11.54	2980	1.12	6	C4145	123
11.54	2980	1.31	6	D4160	123
11.54	2980	1.94	6	D4165	123
13.92	2471	1.19	6	C4145	102
13.92	2471	1.35	6	C4155	102
13.92	2471	1.79	6	D4160	102
16.14	2132	0.78	6	B4125	88
16.14	2132	1.42	6	C4145	88
16.14	2132	1.56	6	C4155	88
16.10	2132	2.14	6	D4160	88
19.19	1793	0.93	6	B4115	74
19.19	1793	1.64	6	C4145	74
23.67	1453	1.13	6	B4115	60
23.67	1453	1.15	6	B4125	60
23.70	1453	2.23	6	C4145	60
26.79	1284	0.90	6	B4110	53
26.79	1284	1.18	6	B4115	53
26.79	1284	1.21	6	B4125	53
26.80	1284	2.29	6	C4145	53
30.87	1114	0.90	6	B4110	46
30.87	1114	1.17	6	B4115	46
30.87	1114	1.21	6	B4125	46
30.90	1114	2.35	6	C4145	46
36.41	945	0.92	6	B4110	39
36.41	945	1.21	6	B4115	39
36.40	945	1.23	6	B4125	39
36.40	945	2.44	6	C4145	39
50.71	678	0.92	6	B4110	28
50.71	678	1.21	6	B4115	28
50.71	678	1.64	6	B4125	28
67.62	509	0.92	6	B4110	21
67.62	509	1.21	6	B4115	21
67.62	509	1.64	6	B4125	21
81.14	421	1.27	6	B4115	17.5
81.14	421	1.72	6	B4125	17.5
135.24	253	1.27	6	B4115	10.5
135.24	253	1.72	6	B4125	10.5

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y2, Y4 position ratings.

5.5kW motor type F132S/4 (B) (n1 = 1430 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
4.69	10088	0.80	8	E4175	305
5.74	8236	0.98	8	E4175	249
6.91	6847	0.84	8	D4165	207
6.91	6847	1.00	8	E4170	207
6.91	6847	1.18	8	E4175	207
7.99	5920	0.98	8	D4165	179
7.99	5920	1.12	8	E4170	179
7.99	5920	1.37	8	E4175	179
9.47	4994	1.00	8	D4160	151
9.47	4994	1.16	8	D4165	151
9.47	4994	1.30	8	E4170	151
9.47	4994	1.62	8	E4175	151
11.63	4068	0.82	8	C4155	123
11.63	4068	1.00	8	D4160	123
11.63	4068	1.42	8	D4165	123
11.63	4068	1.66	8	E4170	123
14.02	3374	0.86	8	C4145	102
14.02	3374	1.30	8	D4160	102
14.02	3374	1.71	8	D4165	102
16.25	2911	1.03	8	C4145	88
16.25	2911	1.14	8	C4155	88
16.25	2911	1.54	8	D4160	88
16.25	2911	1.99	8	D4165	88
19.32	2448	1.19	8	C4145	74
19.32	2448	1.26	8	C4155	74
19.32	2448	1.91	8	D4160	74
23.83	1985	0.84	8	B4125	60
23.83	1985	1.61	8	C4145	60
26.98	1753	0.88	8	B4125	53
26.98	1753	1.65	8	C4145	53
31.09	1521	0.88	8	B4125	46
31.10	1521	1.72	8	C4145	46
36.67	1290	0.88	8	B4125	39
36.70	1290	1.78	8	C4145	39
51.07	926	1.19	8	B4125	28
51.10	926	2.31	8	C4155	28
68.10	695	1.19	8	B4125	21
68.10	695	2.31	8	C4155	21
81.71	575	0.92	8	B4115	17.5
81.71	575	1.25	8	B4125	17.5
136.19	345	0.92	8	B4115	10.5
136.19	345	1.25	8	B4125	10.5

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y2, Y4 position ratings.

7.5kW motor type F132M/4 (B) (n1 = 1450 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
7.00	9207	0.88	10	E4175	207
8.10	7962	0.82	10	E4170	179
8.10	7962	1.02	10	E4175	179
9.60	6717	0.86	10	D4165	151
9.60	6717	0.95	10	E4170	151
9.60	6717	1.19	10	E4175	151
11.79	5471	1.06	10	D4165	123
11.79	5471	1.21	10	E4170	123
11.79	5471	1.48	10	E4175	123
14.22	4537	1.00	10	D4160	102
14.22	4537	1.25	10	D4165	102
14.22	4537	1.50	10	E4170	102
14.22	4537	1.78	10	E4175	102
16.48	3914	0.85	10	C4155	88
16.48	3914	1.13	10	D4160	88
16.48	3914	1.48	10	D4165	88
16.48	3914	1.64	10	E4170	88
19.59	3292	0.87	10	C4145	74
19.59	3292	0.92	10	C4155	74
19.59	3292	1.40	10	D4160	74
19.59	3292	1.71	10	D4165	74
24.17	2669	1.18	10	C4145	60
24.17	2669	1.40	10	D4160	60
24.17	2669	1.94	10	D4165	60
27.36	2357	1.21	10	C4145	53
27.36	2357	1.40	10	D4160	53
27.36	2357	1.91	10	D4165	53
31.52	2046	1.24	10	C4145	46
31.52	2046	1.65	10	D4160	46
37.18	1735	1.67	10	C4155	39
51.79	1245	1.67	10	C4155	28
69.05	934	1.67	10	C4155	21
82.86	773	0.92	10	B4125	17.5
82.86	773	1.76	10	C4155	17.5
138.10	464	0.92	10	B4125	10.5
138.10	464	1.76	10	C4155	10.5

11kW motor type F160M/4 (B) (n1 = 1450 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
9.60	9851	0.81	15	E4175	151
11.79	8024	0.83	15	E4170	123
11.79	8024	1.01	15	E4175	123
14.22	6654	0.85	15	D4165	102
14.22	6654	1.03	15	E4170	102
14.22	6654	1.22	15	E4175	102
16.48	5741	1.01	15	D4165	88
16.48	5741	1.12	15	E4170	88
16.48	5741	1.36	15	E4175	88
19.59	4828	0.95	15	D4160	74
19.59	4828	1.17	15	D4165	74
19.59	4828	1.30	15	E4170	74
19.59	4828	1.62	15	E4175	74
24.17	3914	0.80	15	C4155	60
24.17	3914	1.00	15	D4160	60
24.17	3914	1.32	15	D4165	60
24.17	3914	1.40	15	E4170	60
24.17	3914	1.70	15	E4175	60
27.36	3458	0.88	15	C4155	53
27.36	3458	1.00	15	D4160	53
27.36	3458	1.30	15	D4165	53
27.36	3458	1.60	15	E4170	53
31.52	3001	0.89	15	C4155	46
31.52	3001	1.13	15	D4160	46
31.52	3001	1.51	15	D4165	46
31.52	3001	1.89	15	E4170	46
37.18	2544	1.14	15	C4155	39
37.18	2544	1.39	15	D4160	39
37.18	2544	1.64	15	D4165	39
51.79	1827	1.14	15	C4155	28
51.79	1827	1.39	15	D4160	28
51.79	1827	1.64	15	D4165	28
69.05	1370	1.14	15	C4155	21
82.86	1133	1.20	15	C4155	17.5
82.86	1133	1.45	15	D4160	17.5
138.10	680	1.20	15	C4155	10.5
138.10	680	1.45	15	D4160	10.5

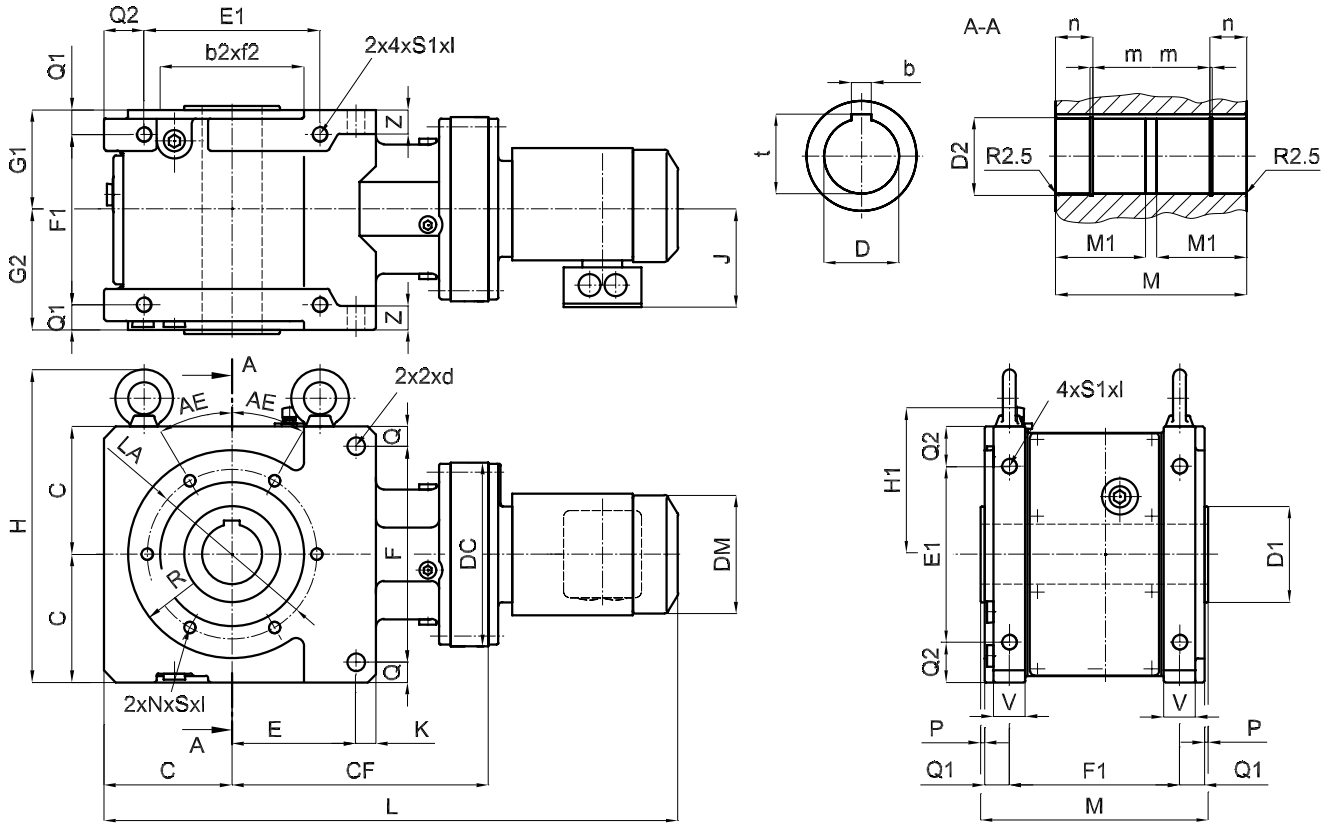
15kW motor type G160L/4 (B) (n1 = 1460 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
11.87	10867	0.74	20	E4175	123
14.31	9012	0.90	20	E4175	102
16.59	7775	0.82	20	E4170	88
16.59	7775	1.00	20	E4175	88
19.73	6538	0.85	20	D4165	74
19.73	6538	1.00	20	E4170	74
19.73	6538	1.19	20	E4175	74
24.33	5301	1.00	20	D4165	60
24.33	5301	1.03	20	E4170	60
24.33	5301	1.25	20	E4175	60
27.55	4683	1.00	20	D4165	53
27.55	4683	1.18	20	E4170	53
27.55	4683	1.47	20	E4175	53
31.74	4064	0.83	20	D4160	46
31.74	4064	1.11	20	D4165	46
31.74	4064	1.38	20	E4170	46
31.74	4064	1.73	20	E4175	46
37.44	3446	1.02	20	D4160	39
37.44	3446	1.20	20	D4165	39
37.44	3446	1.67	20	E4170	39
52.14	2474	1.02	20	D4160	28
52.14	2474	1.20	20	D4165	28
83.43	1535	1.07	20	D4160	17.5
83.43	1535	1.20	20	D4165	17.5
139.05	921	1.07	20	D4160	10.5
139.05	921	1.20	20	D4165	10.5

18.5kW motor type F180MG/4 (B) (n1 = 1475 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
16.76	9492	0.81	25	E4175	88
19.93	7982	1.00	25	E4175	74
24.58	6471	0.83	25	E4170	60
24.58	6471	1.01	25	E4175	60
27.83	5716	1.00	25	E4170	53
27.83	5716	1.19	25	E4175	53
32.07	4961	1.12	25	E4170	46
32.07	4961	1.41	25	E4175	46
37.82	4206	1.35	25	E4170	39
37.82	4206	1.42	25	E4175	39
84.29	1874	0.97	25	D4165	17.5
84.29	1874	1.35	25	E4170	17.5
140.48	1124	0.97	25	D4165	10.5
140.48	1124	1.35	25	E4170	10.5

22kW motor type F180MG (B) (n1 = 1470 min-1)					
n2	M2mot Nm	fB	Motor	Size	Ratio
19.86	9524	0.81	30	E4175	74
24.50	7722	0.85	30	E4175	60
27.74	6821	0.80	30	E4170	53
27.74	6821	1.00	30	E4175	53
31.96	5920	0.94	30	E4170	46
31.96	5920	1.18	30	E4175	46
37.69	5019	1.14	30	E4170	39
37.69	5019	1.19	30	E4175	39
84.00	2236	1.14	30	E4170	17.5
84.00	2236	1.25	30	E4175	10.5
140.00	1342	1.14	30	E4170	10.5
140.00	1342	1.25	30	E4175	10.5

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y2, Y4 position ratings.

Bevel Buddybox Gearmotors Dimension Sheets

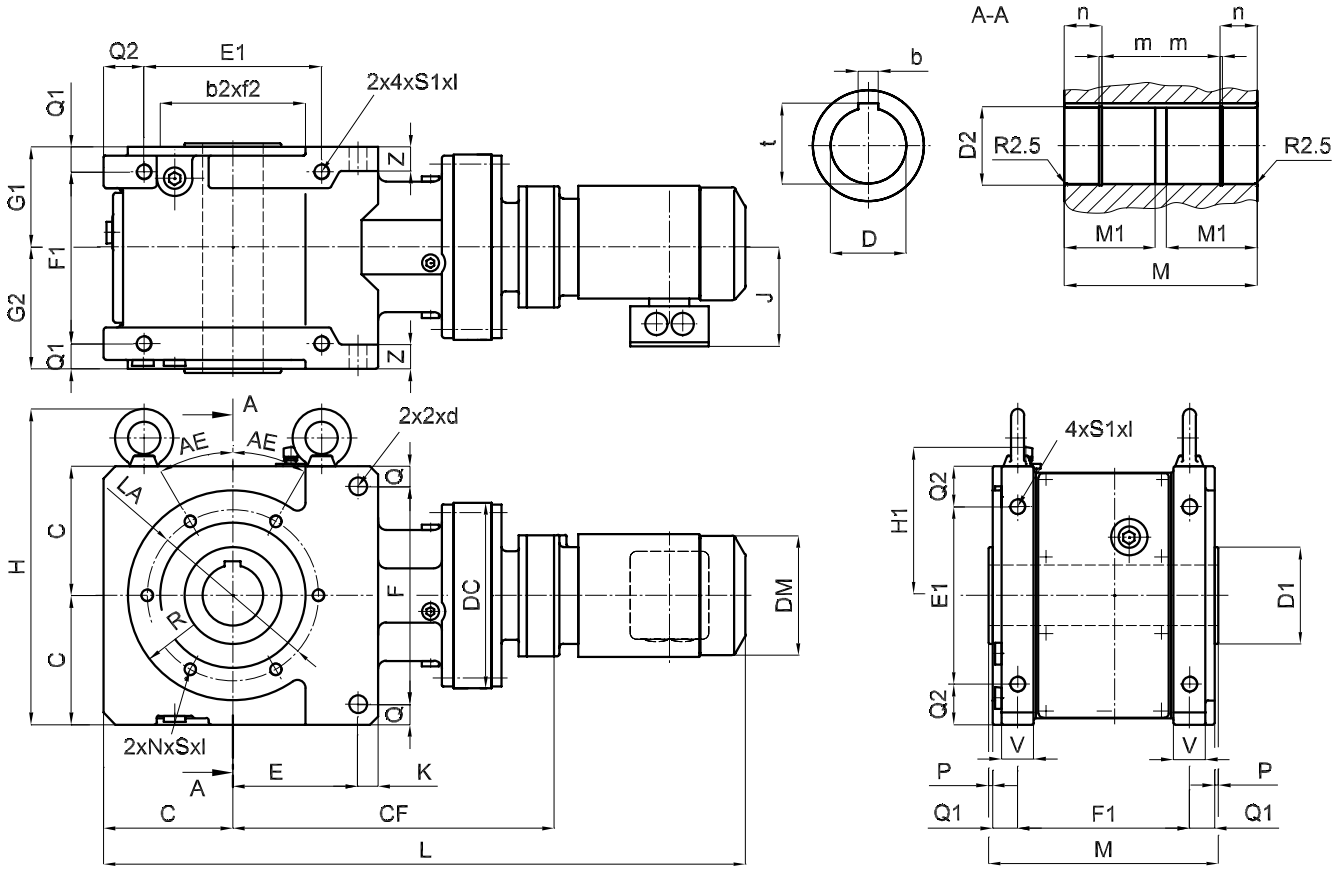


Size	DC	C CF	E K	Q F d	Q1 F1	Q2 E1	P M	V Z	G1 G2	H H1	b2 f2	D B t	D1 D2	M1 m n	LA AE R	N S l	S1 l
A 4100 A 4105	150	110 211	100 17	15 190 18	23 160	35 150	5 216	24 35	103 103	273 132	130 4	40 12 43.3	85 42.5	85 1.85 24	155 30 90	6 M10 17	M12 20
B 4110 B 4115 B 4125	204	130 257	135 20	20 220 18	27 195	35 190	5 259	32 25	122 127	321.5 152	150 4	60 18 64.4	100 63	100 2.15 30	175 30 105	6 M12 20	M16 26
C 4145 C 4155	230	160 321	155 25	25 270 22	31 213	50 220	5 285	40 30	124 151	391 184	180 5	70 20 74.9	120 73	120 2.65 37	212 30 130	6 M16 26	M20 33
D 4160 D 4165	300	190 386	190 28	28 324 26	36 254	65 250	7 340	48 40	145 181	470 214	210 5	90 25 95.4	140 93.5	145 3.15 37	255 30 150	6 M20 33	M24 40
E4170 E4175	340	215 428	220 35	35 360 33	38 283	65 300	7 373	50 45	156 203	520 239	240 5	100 28 106.4	160 103.5	165 3.15 37	280 22.5 165	8 M20 35	M24 40

Input Element

Size	Motor kW	Input Element	Standard				with Brake			
			L	J	DM	kg	L	J	DM	kg
A 4100 A 4105	0.18	F63M/4(B)	497	114	124	43	529	114	124	45
	0.25	F63M/4(B)	497	114	124	43	529	114	124	45
	0.37	F71M/4(B)	517	114	124	44	549	114	124	46
	0.55	F80S/4(B)	558	123	148	48	601	123	148	51
	0.75	F80M/4(B)	558	123	148	48	601	123	148	51
	1.1	F90S/4(B)	591	128	160	52	653	128	160	57
	1.5	F90L/4(B)	591	128	160	52	653	128	160	57
	2.2	F100L/4(B)	611	135	173	56	674	135	173	62
B 4110 B 4115 B 4125	0.37	F71M/4(B)	588	114	124	75	620	114	124	77
	0.55	F80S/4(B)	624	123	148	80	667	123	148	83
	0.75	F80M/4(B)	624	123	148	80	667	123	148	83
	1.1	F90S/4(B)	657	128	160	84	719	128	160	89
	1.5	F90L/4(B)	657	128	160	84	719	128	160	89
	2.2	F100L/4(B)	677	135	173	88	740	135	173	94
	3	F112S/4(B)	700	153	212	92	772	153	212	108
	4	F112M/4(B)	700	153	212	98	772	153	212	108
	5.5	F132S/4(B)	744	153	212	105	816	153	212	115
C 4145 C 4155	0.75	F80M/4(B)	718	123	148	125	761	123	148	128
	1.1	F90S/4(B)	751	128	160	129	813	128	160	134
	1.5	F90L/4(B)	751	128	160	129	813	128	160	134
	2.2	F100L/4(B)	771	135	173	132	834	135	173	138
	3	F112S/4(B)	794	153	212	142	866	153	212	152
	4	F112M/4(B)	794	153	212	142	866	153	212	152
	5.5	F132S/4(B)	838	153	212	149	910	153	212	159
	7.5	F132M/4(B)	861	204	251	164	956	204	251	182
	11	F160M/4(B)	921	204	251	178	1016	204	251	196
D 4160 D 4165	1.5	F90L/4(B)	851	128	160	224	913	128	160	229
	2.2	F100L/4(B)	866	135	173	227	929	135	173	233
	3	F112S/4(B)	889	153	212	235	961	153	212	245
	4	F112M/4(B)	889	153	212	235	961	153	212	245
	5.5	F132S/4(B)	933	153	212	243	1005	153	212	253
	7.5	F132M/4(B)	961	204	251	259	1056	204	251	277
	11	F160M/4(B)	1021	204	251	273	1116	204	251	291
	15	G160L/4(B)	1106	252	324	326	1196	252	324	359
E 4170 E 4175	3	F112S/4(B)	971	153	212	310	1043	153	212	320
	4	F112M/4(B)	971	153	212	310	1043	153	212	320
	5.5	F132S/4(B)	1015	153	212	317	1087	153	212	327
	7.5	F132M/4(B)	1033	204	251	332	1128	204	251	350
	11	F160M/4(B)	1093	204	251	346	1188	204	251	364
	15	G160L/4(B)	1173	252	324	400	1263	252	324	433
	18.5	F180MG/4	1268	297	394	475	-	-	-	-
	22	F180MG/4	1268	297	394	475	-	-	-	-

Example - LHYM2-C4155EY1-249/F90L/4

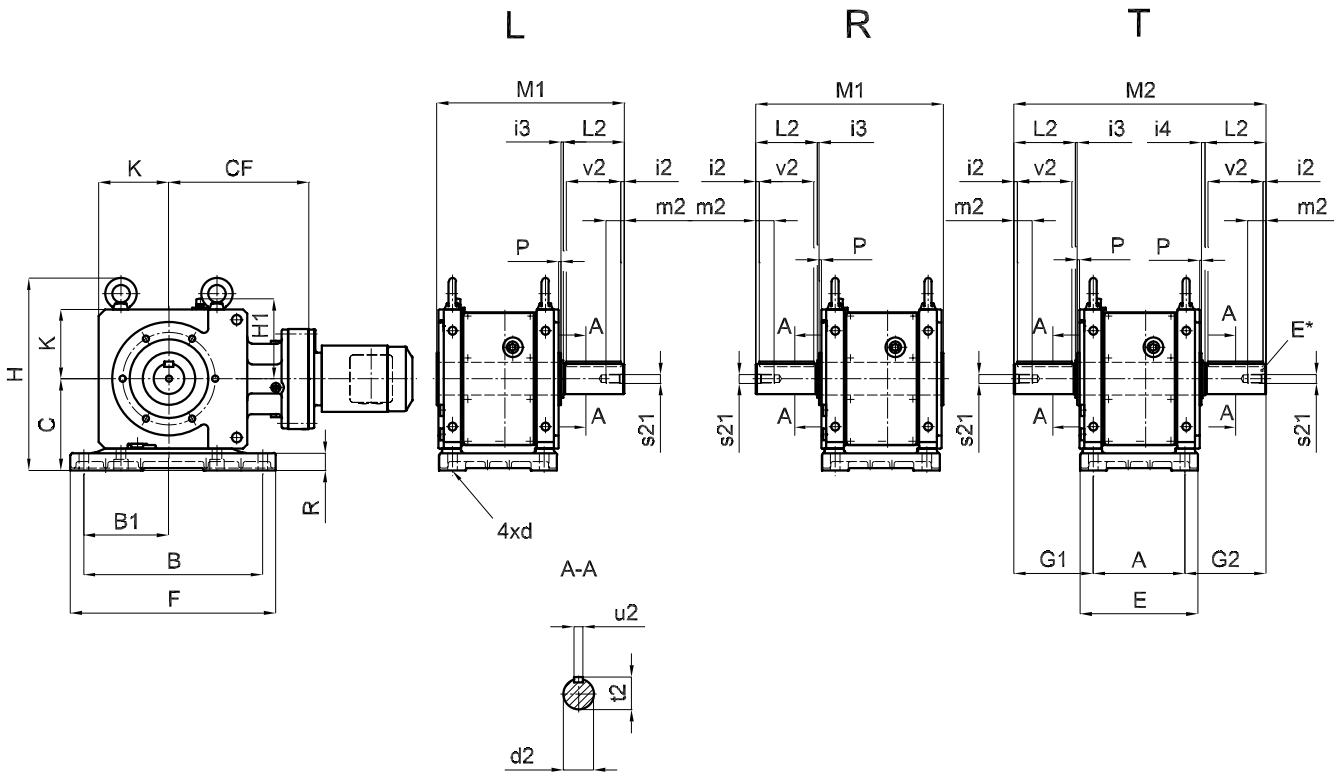


Size	DC	C	E K	Q F d	Q1 F1	Q2 E1	P M	V Z	G1 G2	H H1	b2 f2	D b t	D1 D2	M1 m n	LA AE R	N S l	S1 l
A 4100DA A 4105DA	150	110	100 17	15 190 18	23 160	35 150	5 216	24 35	103 103	273 132	130 4	40 12 43.3	85 42.5	85 1.85 24	155 30 90	6 M10 17	M12 20
B 4110DA B 4115DA B 4110DB B 4115DB	204	130	135 20	20 220 18	27 195	35 190	5 259	32 25	122 127	321.5 152	150 4	60 18 64.4	100 63	100 2.15 30	175 30 105	6 M12 20	M16 26
C 4145DC	230	160	155 25	25 270 22	31 213	50 220	5 285	40 30	124 151	391 184	180 5	70 20 74.9	120 73	120 2.65 37	212 30 130	6 M16 26	M20 33
D 4160DB D 4165DB D 4160DC D 4165DC	300	190	190 28	28 324 26	36 254	65 250	7 340	48 40	145 181	470 214	210 5	90 25 95.4	140 93.5	145 3.15 37	255 30 150	6 M20 33	M24 40
E4170DC E4175DC	340	215	220 35	35 360 33	38 283	65 300	7 373	50 45	156 203	520 239	240 5	100 28 106.4	160 103.5	165 3.15 37	280 22.5 165	8 M20 35	M24 40

Input Element

Size	Motor kW	Input Element	Standard					with Brake			
			CF	L	J	DM	kg	L	J	DM	kg
A 4100DA A 4105DA	0.12	F63S/4(B)	259	518	114	119	43	538	114	124	44
	0.18	F63M/4(B)	259	545	114	124	44	577	114	124	45
	0.25	F63M/4(B)	259	545	114	124	44	577	114	124	45
	0.37	F71M/4(B)	259	565	114	124	45	597	114	124	46
B 4110DA B 4115DA	0.12	F63S/4(B)	311	590	114	119	74	610	114	124	75
	0.18	F63M/4(B)	311	617	114	124	75	649	114	124	76
	0.25	F63M/4(B)	311	617	114	124	75	649	114	124	76
	0.37	F71M/4(B)	311	637	114	124	76	669	114	124	78
B 4110DB B 4115DB	0.55	F80S/4(B)	323	690	123	148	83	733	123	148	86
	0.75	F80M/4(B)	323	690	123	148	83	733	123	148	86
C 4145DC	0.18	F63M/4(B)	398	734	114	124	124	766	114	124	125
	0.25	F63M/4(B)	398	734	114	124	124	766	114	124	125
	0.37	F71M/4(B)	398	734	114	124	125	766	114	124	125
	0.55	F80S/4(B)	398	795	123	148	129	838	123	148	132
	0.75	F80M/4(B)	398	795	123	148	129	838	123	148	132
	1.1	F90S/4(B)	398	828	128	160	133	890	128	160	138
	1.5	F90L/4(B)	398	828	128	160	133	890	128	160	138
	2.2	F100L/4(B)	398	848	135	173	136	911	135	173	142
D 4160DB D 4165DB	0.18	F63M/4(B)	465	831	114	124	223	863	114	124	224
	0.25	F63M/4(B)	465	852	114	124	223	863	114	124	224
	0.37	F71M/4(B)	465	851	114	124	224	883	114	124	225
	0.55	F80S/4(B)	465	892	123	148	227	935	123	148	230
	0.75	F80M/4(B)	465	892	123	148	227	935	123	148	230
	1.1	F90S/4(B)	465	925	128	160	231	987	128	160	236
	1.5	F90L/4(B)	465	925	128	160	231	987	128	160	236
	2.2	F100L/4(B)	465	945	135	173	235	1008	135	173	241
D 4160DC D 4165DC	2.2	F100L/4(B)	467	947	135	173	241	1010	135	173	248
	3	F112S/4(B)	467	970	153	212	252	1042	153	212	262
	4	F112M/4(B)	467	970	153	212	252	1042	153	212	262
E 4170DC E 4175DC	0.37	F71M/4(B)	512	928	114	124	298	960	114	124	302
	0.55	F80S/4(B)	512	964	123	148	300	1007	123	148	303
	0.75	F80M/4(B)	512	964	123	148	300	1007	123	148	303
	1.1	F90S/4(B)	512	997	128	160	303	1059	128	160	308
	1.5	F90L/4(B)	512	997	128	160	303	1059	128	160	308
	2.2	F100L/4(B)	512	1017	135	173	307	1080	135	173	314
	3	F112S/4(B)	512	1040	153	212	318	1112	153	212	328
	4	F112M/4(B)	512	1040	153	212	318	1112	153	212	328

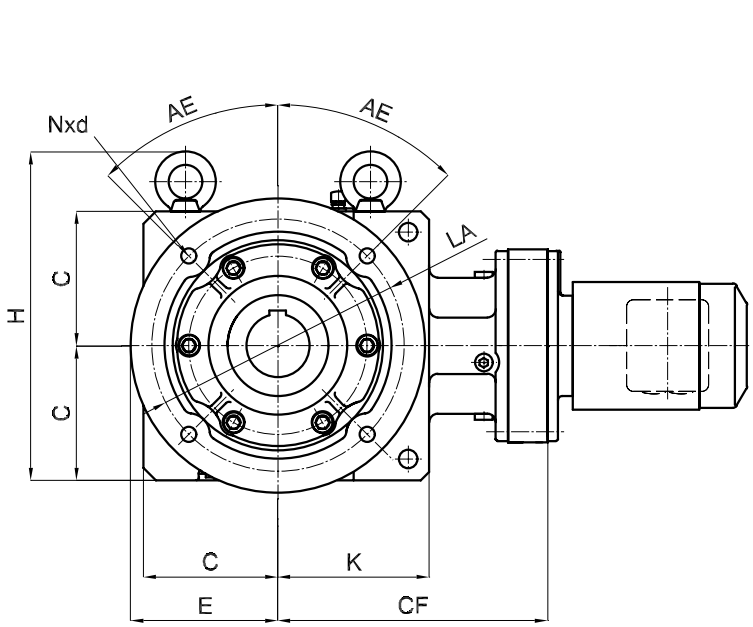
Example - LHYM1-C4145DCEY1-578/F80M/4

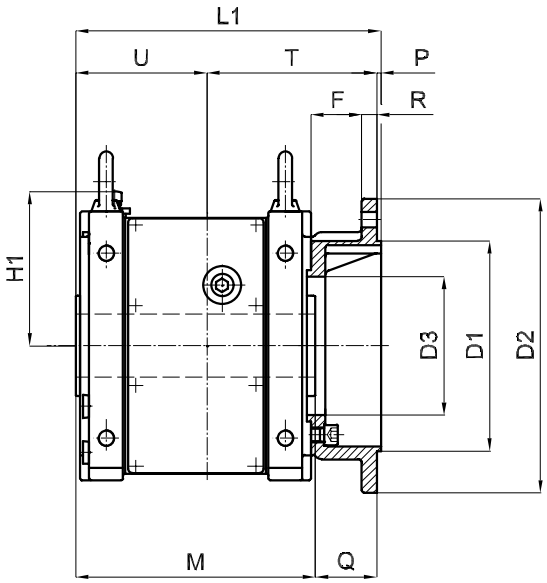


size	C K CF	H H1	F B B1	E A R	G1 G2 d	d2 L2	i2 v2	t2 u2	P i3 i4	s21 m2	M1 M2	G1 G2 d
A4100 A4105	140 110 211	303 132	320 280 135	202 160 25	113 112 14	40 80	3 70	43 12	5 5 4	M16 36	301 385	113 112 14
B4110 B4115 B4125	170 130 257	362 152	385 345 160	245 195 35	157 157 18	60 120	10 100	64 18	5 5 5	M20 42	384 509	157 157 18
C4145 C4155	210 160 321	441 184	470 410 195	270 210 40	182.5 183.5 22	70 140	7.5 120	74.5 20	5 5 6	M20 42	430 576	181 182 22
D4160 D4165	245 190 386	525 214	560 500 235	320 260 45	220 216.5 26	90 170	5 150	95 25	7 10 6.5	M24 50	520 696.5	223 219.5 26
E4170 E4175	275 215 428	580 239	650 580 270	355 280 45	273.5 263 33	110 * 210	10 180	116 28	7 17 6.5	M24 50	600 816.5	272 261.5 33

*second shaft ∅100 mm

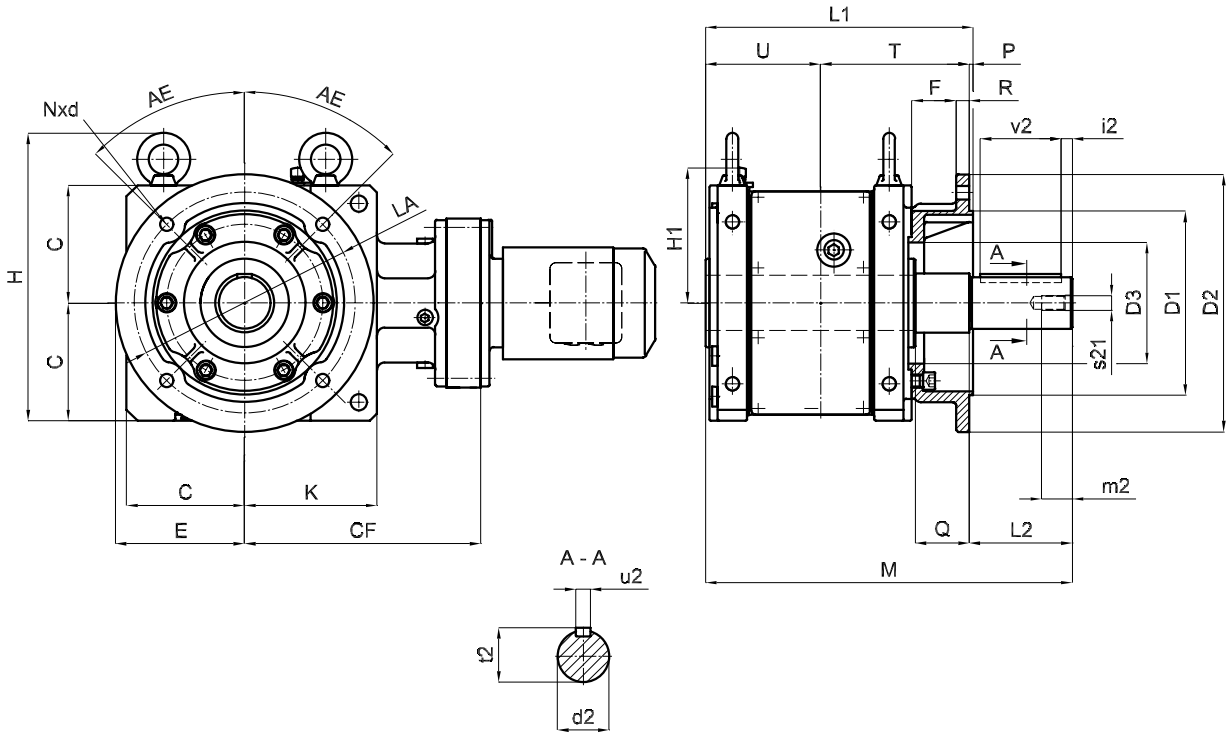
Example - LHHM2-C4155TEY1-249/F90L/4





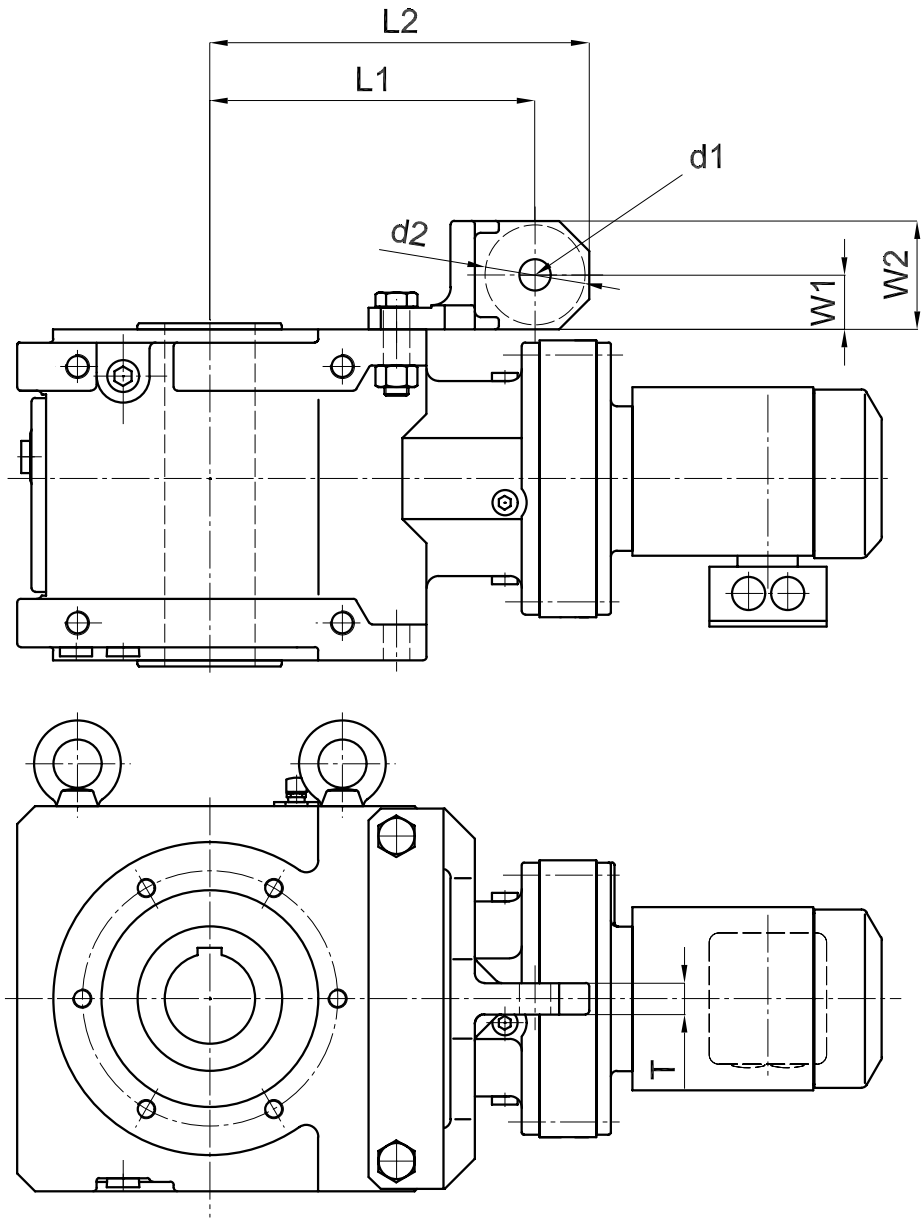
Size	C CF	E K	H H1	L1 U T	M Q	F P R	D2 D1 D3	N d	AE ° LA
A4100 A4105	110 211	125 117	273 132	280 108 168	216 60	50 4 15	250 180 120	4 14	45 215
B4110 B4115 B4125	130 257	150 155	321.5 152	324 132 188	259 61	50 4 16	300 230 140	4 14	45 265
C4145 C4155	160 321	175 180	391 184	363 156 202	285 73	60 5 18	350 250 165	4 18	45 300
D4160 D4165	190 386	225 218	470 214	425 188 232	340 80	65 5 22	450 350 195	8 18	22.5 400
E4170 E4175	215 428	225 255	520 239	458 210 243	373 80	65 5 22	450 350 220	8 18	22.5 400

Example - LHFM2-C4155EY1-249/F90L/4



size	d2	i2	t2	s21	C	E	H	L1	M	F	D2	N	AE °
	L2	v2	u2	m2	CF	K	H1	U T	Q	P R	D1 D3	d	LA
A4100 A4105	40	3	43	M16	110	125	273	280 108	356	50 4	250 180	4	45
	80	70	12	36	211	117	132	168	60	15	120	14	215
B4110 B4115 B4125	60	10	64	M20	130	150	321.5	324 132	440	50 4	300 230	4 14	45
	120	100	18	42	257	155	152	188	61	16	140		265
C4145 C4155	70	7.5	74.5	M20	160	175	391	363 156	483	60 5	350 250	4	45
	140	120	20	42	321	180	184	202	73	18	165	18	300
D4160 D4165	90	5	95	M24	190	225	470	425 188	590	65 5	450 350	8	22.5
	170	150	25	50	386	218	214	232	80	22	195	18	400
E4170 E4175	110	10	116	M24	215	225	520	458 210	663	65 5	450 350	8	22.5
	210	180	28	50	428	255	239	243	80	22	220	18	400

Example - LHVM2-C4155EY1-249/F90L/4



Size	L1	L2	W1	W2	T	d1	d2*	Screw
A 4100 A 4105	175	205	25	55	16	18	53	M16
B 4110 B 4115 B 4125	225	265	31	67	20	22	66	M20
C 4145 C 4155	270	315	40	85	26	26	83	M24
D 4160 D 4165	330	375	48	93	30	26	83	M30
E 4170 E 4175	370	425	68	123	36	33	103	M30

d2* ∅ max. buffer

Example -
LHYMS2-C4155EY1-249/F90L/4

Bevel Buddybox Selection Tables

Bevel Buddybox Selection Tables

n_1 input speed [min-1]
n_2 output speed [min-1]
P_1 input power [kW]
M_2 output torque [Nm]
i_t total reduction ratio

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y2, Y4 position ratings.

n1 = 500																		
Size	**n2**	**47.6**	**28.6**	**23.8**	**17.9**	**12.8**	**10.9**	**9.4**	**8.3**	**6.76**	**5.68**	**4.9**	**4.07**	**3.31**	**2.79**	**2.42**	**2.01**	**1.64**
	it	**10.5**	**17.5**	**21**	**28**	**39**	**46**	**53**	**60**	**74**	**88**	**102**	**123**	**151**	**179**	**207**	**249**	**305**
A 4100	**P1**			0.86	0.85	0.79	0.67	0.67	0.61	0.52	0.44	0.38	0.31	0.26	0.22	0.19	0.16	0.13
	M2			310	409	528	528	613	630	664	664	664	647	664	664	664	664	664
A 4105	**P1**	1.13	1.13	1.27	1.27	1.04	0.88	0.91	0.81	0.65	0.55	0.47	0.39	0.32	0.27	0.23	0.19	0.16
	M2	203	339	459	612	698	698	833	833	833	833	833	833	833	833	833	833	833
B 4110	**P1**			1.79	1.80	1.78	1.68	1.46	1.29	1.04	0.88	0.76	0.63	0.51	0.43	0.37	0.31	0.25
	M2			647	868	1190	1330	1330	1330	1330	1330	1330	1330	1330	1320	1330	1320	1310
B 4115	**P1**	2.08	2.08	2.35	2.33	2.34	2.11	1.83	1.61	1.31	1.10	0.95	0.79	0.64	0.54	0.47	0.39	0.32
	M2	376	625	850	1120	1570	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670
B 4125	**P1**	2.82	2.82	2.85	2.90	2.34	2.11	1.83	1.61	1.31	1.10	0.95	0.79	0.64	0.54	0.47	0.39	0.32
	M2	509	847	1030	1400	1570	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670	1670
C 4145	**P1**					4.64	4.21	3.66	3.23	2.62	2.20	1.90	1.58	1.28	1.08	0.94	0.78	0.64
	M2					3110	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
C 4155	**P1**	5.40	5.40	5.72	5.75	4.97	4.21	3.66	3.23	2.62	2.20	1.90	1.58	1.28	1.08	0.94	0.78	0.64
	M2	975	1623	2070	2770	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
D 4160	**P1**	6.57	6.57		7.41	7.31	5.94	5.04	5.02	4.07	3.42	2.95	2.45	1.99	1.68	1.45	1.21	0.99
	M2	1186	1973		3570	4900	4700	4600	5180	5180	5180	5180	5180	5180	5170	5180	5180	5180
D 4165	**P1**	8.40	8.40		9.47	7.72	7.31	6.34	5.60	4.54	3.82	3.30	2.73	2.23	1.88	1.62	1.35	1.10
	M2	1517	2524		4560	5180	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780
E 4170	**P1**	10.80	10.80			11.42	9.68	8.41	7.43	6.02	5.06	4.37	3.62	2.95	2.49	2.15	1.79	1.46
	M2	1950	3246			7660	7660	7660	7660	7660	7660	7660	7660	7660	7660	7660	7660	7660
E 4175	**P1**	11.27	11.27			16.90	15.30	13.30	11.75	9.50	8.01	6.91	5.73	4.67	3.94	3.41	2.83	2.31
	M2	2034	3386			7560	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090
Size	**n2**	**1.37**	**1.18**	**1.00**	**0.87**	**0.73**	**0.62**	**0.52**	**0.45**	**0.40**	**0.38**	**0.34**	**0.30**	**0.27**	**0.26**	**0.24**	**0.22**	**0.20**
	it	**364**	**424**	**501**	**578**	**683**	**809**	**956**	**1117**	**1250**	**1320**	**1488**	**1656**	**1838**	**1957**	**2083**	**2272**	**2559**
A 4100DA	**P1**	0.11	0.10	0.08	0.07	0.06	0.05	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.02
	M2	664	664	637	643	652	643	608	664	596	630	664	664	664	664	664	664	664
A 4105DA	**P1**	0.12	0.10	0.09	0.09	0.08	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.02	0.02
	M2	695	674	717	827	833	833	833	833	795	833	833	790	833	833	833	833	833
B 4110DA	**P1**	0.23	0.20	0.17	0.14	0.12	0.10	0.09	0.07	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03
	M2	1330	1330	1330	1330	1303	1286	1330	1330	1330	1259	1330	1317	1330	1245	1325	1330	1221
B 4115DA	**P1**			0.21	0.18	0.15	0.13	0.11	0.09	0.08	0.08	0.07	0.06	0.06	0.05	0.05	0.05	0.04
	M2			1670	1670	1670	1670	1670	1670	1670	1670	1656	1670	1670	1670	1656	1670	1628
B 4115DB	**P1**	0.29	0.25															
	M2	1670	1670															
C 4145DC	**P1**	0.58	0.48	0.42	0.36	0.31	0.26	0.22	0.19	0.17	0.16	0.14	0.13	0.11	0.11	0.10	0.09	0.08
	M2	3330	3236	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
D 4160DB	**P1**	0.89	0.77	0.65	0.56	0.48	0.40	0.34	0.29	0.26	0.25	0.22	0.20	0.18	0.17	0.16	0.14	0.13
	M2	5151	5180	5178	5147	5180	5145	5168	5151	5168	5180	5180	5180	5180	5180	5180	5058	5180
D 4165DB	**P1**	1.00	0.77	0.73	0.63	0.53	0.45	0.38	0.33	0.29	0.28	0.24	0.22	0.20	0.19	0.17	0.16	0.14
	M2	5780	5191	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780
E 4170DC	**P1**	1.33	1.14	0.96	0.84	0.71	0.60	0.50	0.43	0.39	0.37	0.32	0.29	0.26	0.25	0.23	0.21	0.19
	M2	7680	7680	7648	7680	7680	7680	7601	7637	7680	7680	7571	7636	7599	7680	7618	7587	7680
E 4175DC	**P1**	1.40	1.20	1.02	0.88	0.74	0.63	0.53	0.46	0.41	0.39	0.34	0.31	0.28	0.26	0.24	0.22	0.20
	M2	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090

Bevel Buddybox Selection Tables

n_1 input speed [min-1]
n_2 output speed [min-1]
P_1 input power [kW]
M_2 output torque [Nm]
i_t total reduction ratio

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y2, Y4 position ratings.

n1 = 750																		
Size	**n2**	**71.4**	**42.9**	**35.7**	**26.8**	**19.2**	**16.3**	**14.2**	**12.5**	**10.1**	**8.52**	**7.35**	**6.1**	**4.97**	**4.19**	**3.62**	**3.01**	**2.46**
	it	**10.5**	**17.5**	**21**	**28**	**39**	**46**	**53**	**60**	**74**	**88**	**102**	**123**	**151**	**179**	**207**	**249**	**305**
A 4100	**P1**			1.14	1.14	1.06	0.90	0.90	0.81	0.79	0.66	0.57	0.41	0.38	0.30	0.25	0.22	0.19
	M2			275	366	474	475	547	558	668	668	668	579	659	616	594	629	668
A 4105	**P1**	1.69	1.69	1.69	1.69	1.57	1.33	1.37	1.21	0.98	0.83	0.71	0.59	0.48	0.41	0.35	0.29	0.24
	M2	203	339	407	543	702	702	834	834	834	834	834	834	834	834	834	834	834
B 4110	**P1**			2.39	2.39	2.39	2.33	2.20	1.94	1.57	1.32	1.14	0.95	0.77	0.65	0.56	0.47	0.38
	M2			576	768	1060	1230	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330	1330
B 4115	**P1**	3.12	3.12	3.12	3.12	3.14	3.03	2.74	2.42	1.96	1.65	1.42	1.18	0.96	0.81	0.70	0.58	0.48
	M2	375	626	752	1000	1400	1590	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660
B 4125	**P1**	4.23	4.23	4.23	4.23	3.14	3.14	2.74	2.42	1.96	1.65	1.42	1.18	0.96	0.81	0.70	0.58	0.48
	M2	509	848	1010	1350	1400	1650	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660
C 4145	**P1**					6.24	6.02	5.48	4.84	3.93	3.30	2.85	2.36	1.92	1.62	1.40	1.17	0.95
	M2					2790	3170	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
C 4155	**P1**	8.10	8.10	8.10	8.10	7.45	6.32	5.48	4.84	3.93	3.30	2.85	2.36	1.92	1.62	1.40	1.17	0.95
	M2	975	1624	1950	2600	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
D4160	**P1**	9.85	9.85		9.85	9.85	8.00	6.77	6.77	6.10	5.13	4.42	3.39	2.99	2.52	2.18	1.81	1.48
	M2	1185	1975		3160	4400	4220	4110	4660	5170	5170	5170	4780	5170	5170	5170	5170	5170
D4165	**P1**	12.60	12.60		12.60	11.60	10.70	9.23	8.40	6.81	5.73	4.94	4.10	3.34	2.82	2.44	2.03	1.65
	M2	1516	2527		4040	5170	5640	5610	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780
E 4170	**P1**	16.20	16.20			16.20	13.40	11.40	9.94	9.05	7.61	6.56	5.44	4.43	3.74	3.23	2.69	2.19
	M2	1949	3249			7250	7070	6930	6840	7680	7680	7680	7680	7680	7680	7680	7680	7680
E 4175	**P1**	16.90	16.90			12.05	10.22	8.87	7.83	6.35	5.34	4.61	3.82	3.11	2.63	2.27	1.89	1.54
	M2	2034	3389			8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090
Size	**n2**	**2.06**	**1.77**	**1.50**	**1.30**	**1.10**	**0.93**	**0.78**	**0.67**	**0.60**	**0.57**	**0.50**	**0.45**	**0.41**	**0.38**	**0.36**	**0.33**	**0.29**
	it	**364**	**424**	**501**	**578**	**683**	**809**	**956**	**1117**	**1250**	**1320**	**1488**	**1656**	**1838**	**1957**	**2083**	**2272**	**2559**
A 4100DA	**P1**	0.17	0.15	0.13	0.11	0.09	0.08	0.07	0.06	0.05	0.05	0.04	0.04	0.03	0.03	0.03	0.03	0.02
	M2	656	664	664	664	652	664	664	664	663	664	664	664	664	664	664	664	664
A 4105DA	**P1**	0.18	0.16	0.13	0.14	0.12	0.10	0.08	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03	0.03
	M2	695	719	690	833	833	833	833	829	833	833	789	833	833	833	833	833	833
B 4110DA	**P1**			0.25	0.22	0.18	0.16	0.13	0.11	0.10	0.10	0.08	0.08	0.07	0.06	0.06	0.06	0.05
	M2			1328	1330	1303	1330	1317	1302	1325	1330	1262	1330	1330	1245	1325	1330	1330
B 4110DB	**P1**	0.34	0.30															
	M2	1330	1330															
B 4115DA	**P1**				0.27	0.23	0.19	0.16	0.14	0.13	0.12	0.11	0.09	0.09	0.08	0.08	0.07	0.06
	M2				1660	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660	1628
B 4115DB	**P1**	0.43	0.37	0.31														
	M2	1660	1660	1660														
C 4145DC	**P1**	0.86	0.72	0.63	0.54	0.46	0.39	0.33	0.28	0.25	0.24	0.21	0.19	0.17	0.16	0.15	0.14	0.12
	M2	3330	3236	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
D 4160DB	**P1**	1.34	1.15	0.97	0.84	0.71	0.60	0.51	0.44	0.39	0.37	0.33	0.29	0.27	0.25	0.23	0.21	0.19
	M2	5170	5169	5152	5147	5141	5145	5168	5170	5168	5170	5170	5091	5170	5170	5170	5058	5154
D 4165DB	**P1**	1.50	1.15	1.09	0.94	0.80	0.67	0.57	0.49	0.44	0.41	0.37	0.33	0.30	0.28	0.26	0.24	0.21
	M2	5780	5169	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780
E 4170DC	**P1**	1.99	1.71	1.45	1.25	1.06	0.90	0.76	0.65	0.58	0.55	0.49	0.44	0.39	0.37	0.35	0.32	0.28
	M2	7679	7680	7680	7659	7675	7680	7680	7680	7680	7680	7680	7680	7599	7676	7680	7680	7595

Bevel Buddybox Selection Tables

n_1 input speed [min-1]
n_2 output speed [min-1]
P_1 input power [kW]
M_2 output torque [Nm]
i_t total reduction ratio

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y2, Y4 position ratings.

n1 = 1000																		
Size	**n2**	**95.2**	**57.1**	**47.6**	**35.7**	**25.6**	**21.7**	**18.9**	**16.7**	**13.5**	**11.4**	**9.8**	**8.13**	**6.62**	**5.59**	**4.83**	**4.02**	**3.28**
	it	**10.5**	**17.5**	**21**	**28**	**39**	**46**	**53**	**60**	**74**	**88**	**102**	**123**	**151**	**179**	**207**	**249**	**305**
A 4100	**P1**			1.39	1.39	1.29	1.11	1.10	0.99	0.99	0.83	0.73	0.50	0.46	0.36	0.31	0.27	0.25
	M2			251	335	433	440	502	511	631	629	641	529	598	555	552	579	668
A 4105	**P1**	2.07	2.07	2.07	2.07	2.07	1.77	1.83	1.60	1.31	1.09	0.95	0.78	0.64	0.51	0.46	0.38	0.32
	M2	187	311	374	499	695	702	834	826	834	826	834	826	834	781	821	806	834
B 4110	**P1**			2.92	2.92	2.92	2.84	2.84	2.39	2.10	1.62	1.42	1.19	0.97	0.81	0.75	0.56	0.49
	M2			528	704	980	1120	1290	1230	1330	1220	1240	1250	1260	1240	1330	1200	1280
B 4115	**P1**	3.82	3.82	3.82	3.82	3.84	3.70	3.66	3.23	2.62	2.20	1.90	1.58	1.28	1.08	0.94	0.74	0.64
	M2	345	575	691	921	1280	1460	1660	1660	1660	1660	1660	1660	1660	1660	1660	1580	1660
B 4125	**P1**	5.18	5.18	5.18	5.18	3.84	3.84	3.66	3.23	2.62	2.20	1.90	1.58	1.28	1.08	0.94	0.78	0.64
	M2	467	779	936	1240	1280	1520	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660
C 4145	**P1**					7.64	7.36	7.15	6.46	5.18	4.40	3.75	3.15	2.41	2.16	1.87	1.56	1.27
	M2					2560	2910	3260	3330	3290	3330	3290	3330	3130	3330	3330	3330	3330
C 4155	**P1**	9.90	9.90	9.90	9.91	9.90	7.73	7.31	6.46	5.24	4.40	3.80	3.15	2.57	2.16	1.87	1.56	1.27
	M2	893	1489	1780	2380	3320	3060	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
D 4160	**P1**	12.00	12.00		12.00	12.00	9.79	8.28	8.28	8.13	6.69	5.65	4.14	3.98	3.25	2.79	2.42	1.92
	M2	1083	1805		2890	4020	3870	3770	4270	5170	5060	4960	4380	5170	5000	4970	5170	5040
D 4165	**P1**	15.40	15.40		15.40	15.40	13.10	11.30	11.21	9.09	7.64	6.59	5.47	4.45	3.76	3.25	2.70	2.20
	M2	1390	2316		3710	5170	5180	5150	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780
E 4170	**P1**	19.80	19.80			19.80	16.40	13.90	12.20	11.30	9.71	8.75	7.20	5.65	4.85	4.14	3.35	2.93
	M2	1787	2978			6640	6490	6340	6300	7190	7350	7680	7620	7340	7470	7370	7180	7680
E 4175	**P1**	20.70	20.70			20.70	20.40	17.40	14.80	12.70	10.70	9.20	7.60	6.20	5.30	4.50	3.80	3.08
	M2	1868	3114			6940	8090	7930	7640	8090	8090	8090	8090	8090	8090	8090	8090	8090
Size	**n2**	**2.75**	**2.36**	**2.00**	**1.73**	**1.46**	**1.24**	**1.05**	**0.90**	**0.80**	**0.76**	**0.67**	**0.60**	**0.54**	**0.51**	**0.48**	**0.44**	**0.39**
	it	**364**	**424**	**501**	**578**	**683**	**809**	**956**	**1117**	**1250**	**1320**	**1488**	**1656**	**1838**	**1957**	**2083**	**2272**	**2559**
A 4100DA	**P1**	0.23	0.20	0.17	0.15	0.12	0.10	0.09	0.08	0.07	0.06	0.06	0.05	0.05	0.04	0.04	0.04	0.03
	M2	666	668	668	668	652	643	668	668	668	668	668	668	668	668	668	668	668
A 4105DA	**P1**	0.24	0.21	0.18	0.18	0.15	0.13	0.11	0.09	0.08	0.08	0.07	0.06	0.06	0.05	0.05	0.05	0.04
	M2	695	708	717	834	834	834	834	834	834	834	828	834	834	834	834	834	834
B 4110DA	**P1**			0.33	0.29	0.24	0.21	0.17	0.15	0.13	0.13	0.11	0.10	0.09	0.09	0.08	0.07	0.07
	M2			1330	1330	1330	1330	1330	1330	1292	1330	1301	1317	1315	1330	1325	1264	1330
B 4110DB	**P1**	0.46	0.39															
	M2	1330	1330															
B 4115DA	**P1**				0.36	0.31	0.26	0.22	0.19	0.17	0.16	0.14	0.13	0.11	0.11	0.10	0.09	0.08
	M2				1660	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660	1656	1660	1660
B 4115DB	**P1**	0.57	0.49	0.42														
	M2	1660	1660	1660														
C 4145DC	**P1**	1.15	0.96	0.84	0.72	0.61	0.52	0.44	0.37	0.34	0.32	0.28	0.25	0.23	0.21	0.20	0.18	0.16
	M2	3330	3236	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
D 4160DB	**P1**	1.79	1.53	1.30	1.13	0.95	0.80	0.68	0.58	0.52	0.49	0.44	0.39	0.35	0.33	0.31	0.29	0.25
	M2	5170	5170	5170	5170	5159	5145	5168	5151	5168	5142	5170	5135	5114	5134	5134	5170	5086
D 4165DB	**P1**	2.00	1.54	1.45	1.26	1.06	0.90	0.76	0.65	0.58	0.55	0.49	0.44	0.40	0.37	0.35	0.32	0.28
	M2	5780	5191	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780
E 4170DC	**P1**	2.65	2.28	1.93	1.67	1.41	1.19	1.01	0.86	0.77	0.73	0.65	0.58	0.53	0.49	0.46	0.42	0.38
	M2	7669	7680	7680	7674	7656	7654	7677	7637	7652	7661	7680	7636	7680	7624	7618	7587	7680
E 4175DC	**P1**	2.80	2.40	2.03	1.76	1.49	1.26	1.06	0.91	0.81	0.77	0.68	0.61	0.55	0.52	0.49	0.45	0.40
	M2	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090

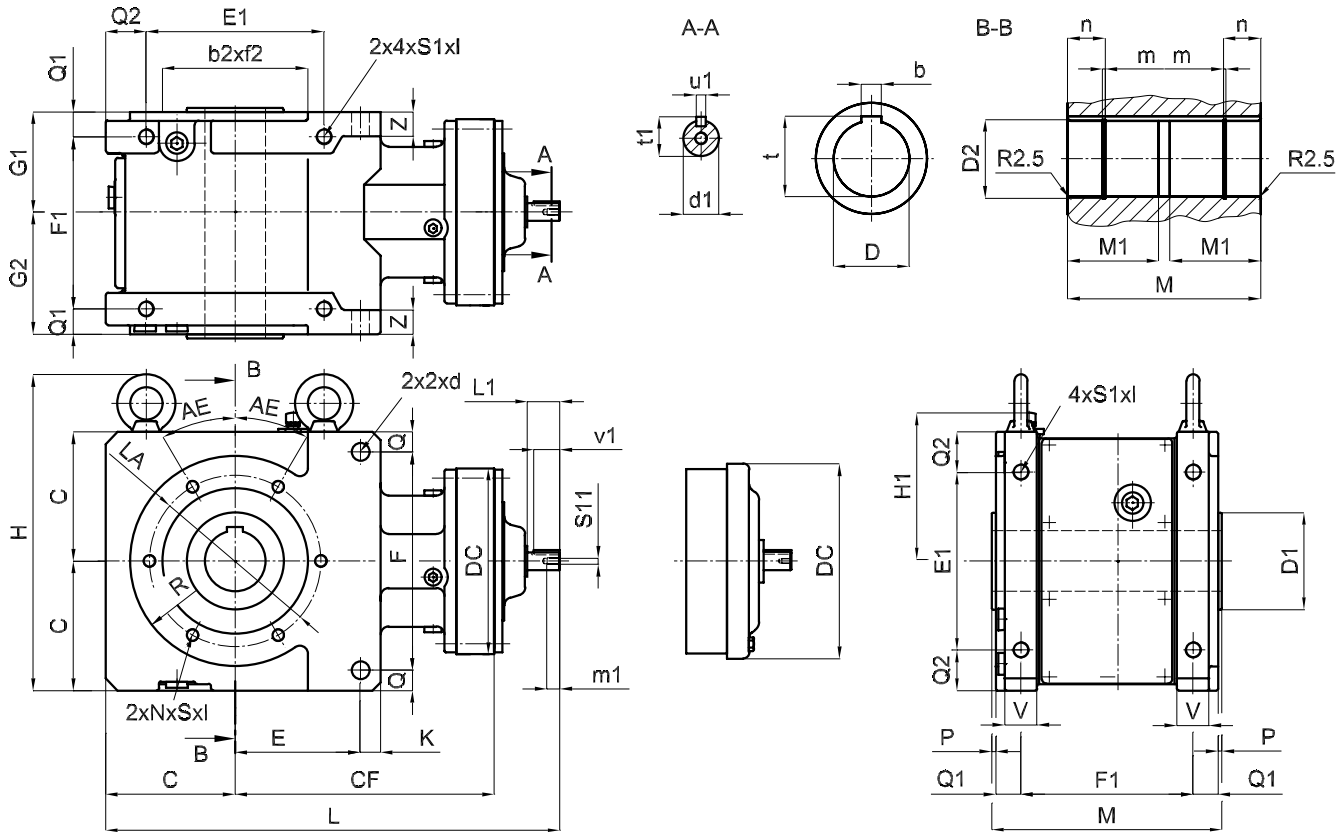
Bevel Buddybox Selection Tables

n_1 input speed [min-1]
n_2 output speed [min-1]
P_1 input power [kW]
M_2 output torque [Nm]
i_t total reduction ratio

For size C4145 and above, consult SUMITOMO CYCLO EUROPE for Y2, Y4 position ratings.

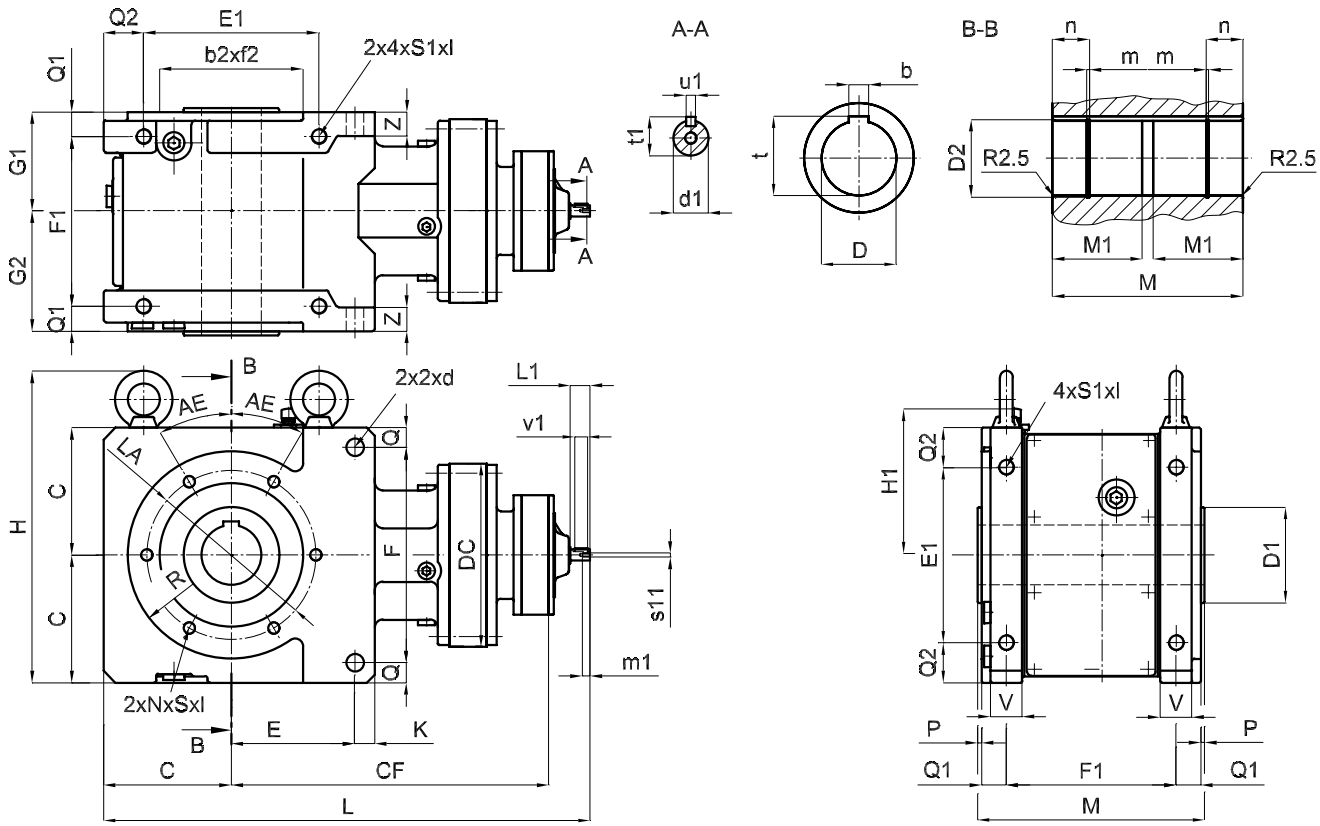
n1 = 1500																		
Size	**n2**	**142.9**	**85.7**	**71.4**	**53.6**	**38.5**	**32.6**	**28.3**	**25**	**20.3**	**17**	**14.7**	**12.2**	**9.93**	**8.38**	**7.25**	**6.02**	**4.92**
	it	**10.5**	**17.5**	**21**	**28**	**39**	**46**	**53**	**60**	**74**	**88**	**102**	**123**	**151**	**179**	**207**	**249**	**305**
A 4100	**P1**			1.85	1.85	1.72	1.47	1.46	1.32	1.32	1.10	0.97	0.66	0.62	0.48	0.41	0.35	0.35
	M2			223	297	385	388	444	455	561	556	568	466	537	493	487	500	613
A 4105	**P1**	2.75	2.75	2.75	2.75	2.75	2.66	2.75	2.13	1.96	1.45	1.38	1.04	0.94	0.67	0.61	0.50	0.48
	M2	165	276	331	442	615	702	834	733	834	732	808	734	813	692	728	714	834
B 4110	**P1**			3.88	3.88	3.88	3.78	3.78	3.17	2.99	2.15	1.89	1.58	1.29	1.08	1.00	0.74	0.65
	M2			468	623	868	998	1140	1090	1260	1080	1100	1110	1110	1100	1180	1050	1130
B 4115	**P1**	5.07	5.07	5.07	5.07	5.07	4.92	4.97	4.76	3.93	3.26	2.85	2.36	1.92	1.62	1.40	0.98	0.94
	M2	305	508	611	815	1130	1290	1510	1630	1660	1640	1660	1660	1660	1660	1660	1400	1640
B 4125	**P1**	6.88	6.88	6.88	6.88	5.10	5.09	5.09	4.84	3.93	3.30	2.85	2.36	1.92	1.62	1.40	1.04	0.94
	M2	414	690	829	1100	1140	1340	1540	1660	1660	1660	1660	1660	1660	1660	1660	1480	1640
C 4145	**P1**					10.10	9.78	9.50	9.29	6.88	5.97	4.98	4.73	3.20	2.97	2.81	2.13	1.91
	M2					2260	2580	2880	3190	2920	3010	2910	3330	2770	3050	3330	3040	3330
C 4155	**P1**	13.20	13.20	13.20	13.20	13.20	10.30	10.20	9.29	7.25	6.60	5.70	4.73	3.85	3.25	2.81	2.33	1.91
	M2	794	1324	1590	2120	2950	2710	3100	3190	3070	3330	3330	3330	3330	3330	3330	3330	3330
D 4160	**P1**	16.00	16.00		16.00	16.00	13.00	11.00	11.00	11.00	8.88	7.50	5.50	5.50	4.32	3.70	3.25	2.54
	M2	963	1604		2570	3580	3430	3340	3780	4670	4480	4390	3880	4760	4430	4390	4640	4440
D 4165	**P1**	18.00	18.00		18.00	18.00	17.40	15.00	15.30	13.50	11.46	9.86	8.20	6.68	5.63	4.87	4.05	3.31
	M2	1083	1805		2890	4020	4590	4560	5260	5730	5780	5770	5780	5780	5780	5780	5780	5780
E 4170	**P1**	25.00	25.00			25.00	21.80	18.50	16.10	15.00	12.90	11.80	9.56	7.50	6.45	5.50	4.45	4.08
	M2	1504	2507			5590	5750	5620	5540	6370	6510	6900	6740	6490	6620	6530	6350	7140
E 4175	**P1**	27.50	27.50			27.50	27.30	23.10	19.70	18.80	15.80	13.80	11.50	9.30	7.90	6.80	5.70	4.00
	M2	1655	2758			6150	7200	7020	6780	7980	7970	8090	8090	8090	8090	8090	8090	8090
Size	**n2**	**4.12**	**3.54**	**2.99**	**2.60**	**2.20**	**1.85**	**1.57**	**1.34**	**1.20**	**1.14**	**1.01**	**0.91**	**0.82**	**0.77**	**0.72**	**0.66**	**0.59**
	it	**364**	**424**	**501**	**578**	**683**	**809**	**956**	**1117**	**1250**	**1320**	**1488**	**1656**	**1838**	**1957**	**2083**	**2272**	**2559**
A 4100DA	**P1**	0.35	0.30	0.25	0.22	0.18	0.16	0.13	0.11	0.10	0.10	0.08	0.08	0.07	0.06	0.06	0.06	0.05
	M2	668	668	664	668	652	668	659	651	663	668	668	668	668	668	668	668	668
A 4105DA	**P1**	0.36	0.31	0.26	0.27	0.23	0.19	0.16	0.14	0.13	0.12	0.11	0.10	0.09	0.08	0.08	0.07	0.06
	M2	695	697	690	834	834	834	834	834	834	834	834	834	834	834	834	834	834
B 4110DA	**P1**					0.37	0.31	0.26	0.22	0.20	0.19	0.17	0.15	0.14	0.13	0.12	0.11	0.10
	M2					1330	1329	1317	1330	1325	1329	1330	1317	1330	1330	1325	1325	1330
B 4110DB	**P1**	0.69	0.59	0.50	0.43													
	M2	1330	1326	1328	1330													
B 4115DA	**P1**						0.39	0.33	0.28	0.25	0.24	0.21	0.19	0.17	0.16	0.15	0.14	0.12
	M2						1660	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660	1660
B 4115DB	**P1**	0.83	0.74	0.63	0.54	0.46												
	M2	1601	1660	1660	1660	1660												
C 4145DC	**P1**	1.73	1.44	1.25	1.09	0.92	0.78	0.66	0.56	0.50	0.48	0.42	0.38	0.34	0.32	0.30	0.28	0.25
	M2	3330	3236	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330	3330
D 4160DB	**P1**	2.68	2.30	1.95	1.69	1.43	1.21	1.02	0.87	0.78	0.74	0.66	0.59	0.53	0.50	0.47	0.43	0.38
	M2	5170	5169	5170	5170	5170	5170	5168	5151	5168	5170	5170	5170	5163	5170	5170	5170	5154
D 4165DB	**P1**	2.75	2.30	2.18	1.89	1.60	1.35	1.14	0.98	0.87	0.83	0.73	0.66	0.59	0.56	0.52	0.48	0.43
	M2	5306	5169	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780	5780
E 4170DC	**P1**	3.97	3.41	2.88	2.50	2.12	1.79	1.51	1.29	1.16	1.09	0.97	0.87	0.79	0.74	0.69	0.64	0.56
	M2	7660	7660	7660	7660	7660	7660	7651	7660	7660	7660	7650	7636	7660	7660	7660	7660	7660
E 4175DC	**P1**	4.19	3.60	3.05	2.64	2.23	1.89	1.60	1.37	1.22	1.16	1.03	0.92	0.83	0.78	0.73	0.67	0.60
	M2	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090	8090

Bevel Buddybox Speed Reducer Dimension Sheets



Size	d1 L1	u1 t1 v1	s11 m1	L DC	C CF	E K	Q F d	Q1 F1	Q2 E1	P M	V Z	G1 G2	H H1	b2 f2	D b t	D1 D2	M1 m n	LA AE R	N S l	S1 l	Weight [kg]
A 4100 A 4105	14 25	5 16 16	M5 10	373 150	110 211	100 17	15 190 18	23 160	35 150	5 216	24 35	103 103	273 132	130 4	40 12 43.3	85 42.5	85 1.85 24	155 30 90	6 M10 17	M12 20	38.5
B 4110 B 4115 B4125	19 35	6 21.5 25	M6 12	460 204	130 257	135 20	20 220 18	27 195	35 190	5 259	32 25	122 127	321.5 152	150 4	60 18 64.4	100 63	100 2.15 30	175 30 105	6 M12 20	M16 26	73.5
C 4145 C4155	22 40	6 24.5 32	M8 16	562 230	160 321	155 25	25 270 22	31 213	50 220	5 285	40 30	124 151	391 184	180 5	70 20 74.9	120 73	120 2.65 37	212 30 130	6 M16 26	M20 33	103
D 4160 D4165	30 45	8 33 45	M8 16	681 318	190 386	190 28	28 324 26	36 254	65 250	7 340	48 40	145 181	470 214	210 5	90 25 95.4	140 93.5	145 3.15 37	255 30 150	6 M20 33	M24 40	193
E4170 E4175	35 55	10 38 50	M8 16	768 362	215 428	220 35	35 360 33	38 283	65 300	7 373	50 45	156 203	520 239	240 5	100 28 106.4	160 103.5	165 3.15 37	280 22.5 165	8 M20 35	M24 40	278

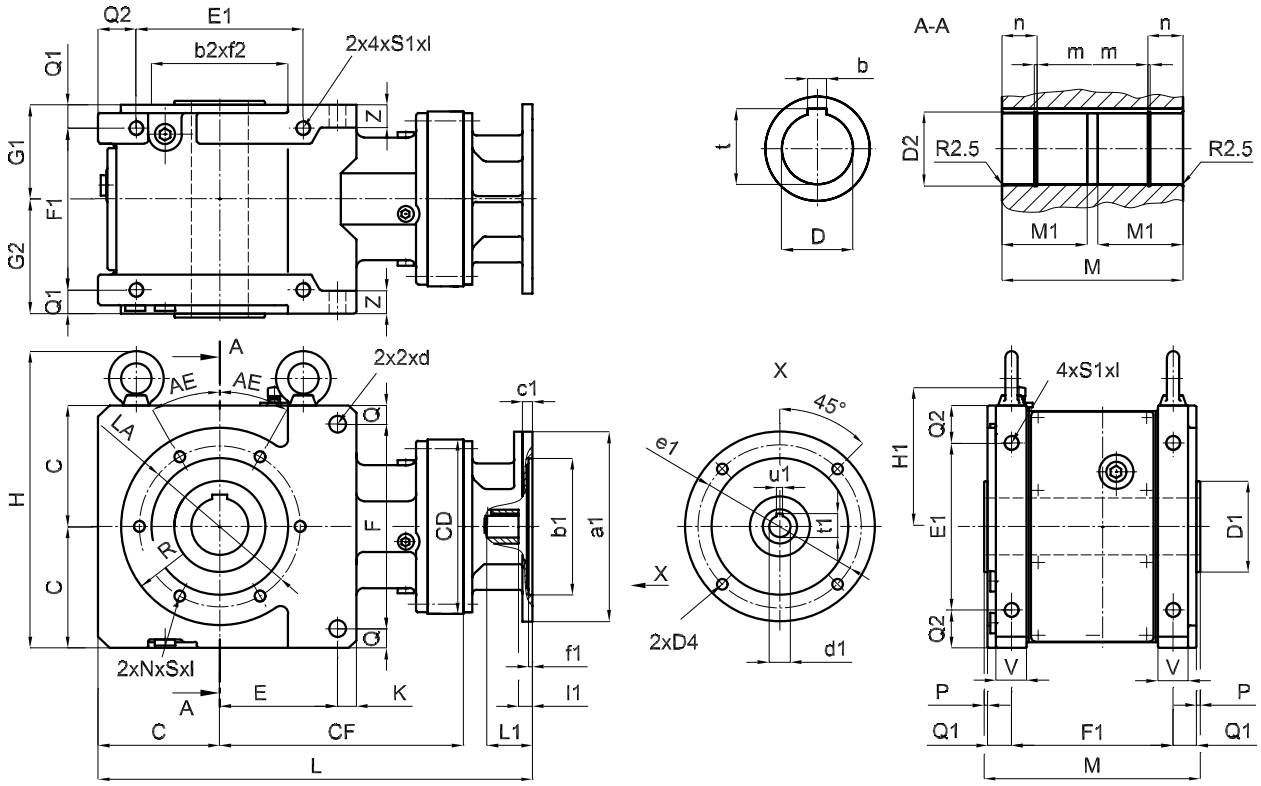
Example - LHY-C4155EY1-249



Size	CF	L	d1	L1	u1	t1	v1	s11	m1	Weight [kg]
A 4100DA A 4105DA	259	422	12	25	4	13.5	18	M4	8	40.5
B 4110DA B 4115DA	311	494	12	25	4	13.5	18	M4	8	75.5
B 4110DB B 4115DB	323	513	14	25	5	16	16	M5	10	79.5
C 4145DC	398	610	14	25	5	16	16	M5	10	105
D 4160DB D 4165DB	465	707	14	25	5	16	16	M5	10	196
D 4160DC D 4165DC	467	730	19	35	6	21.5	25	M6	12	203
E4170DC E4175DC	512	818	19	35	6	21.5	25	M6	12	281

Example - LHY-C4145DCEY1-578

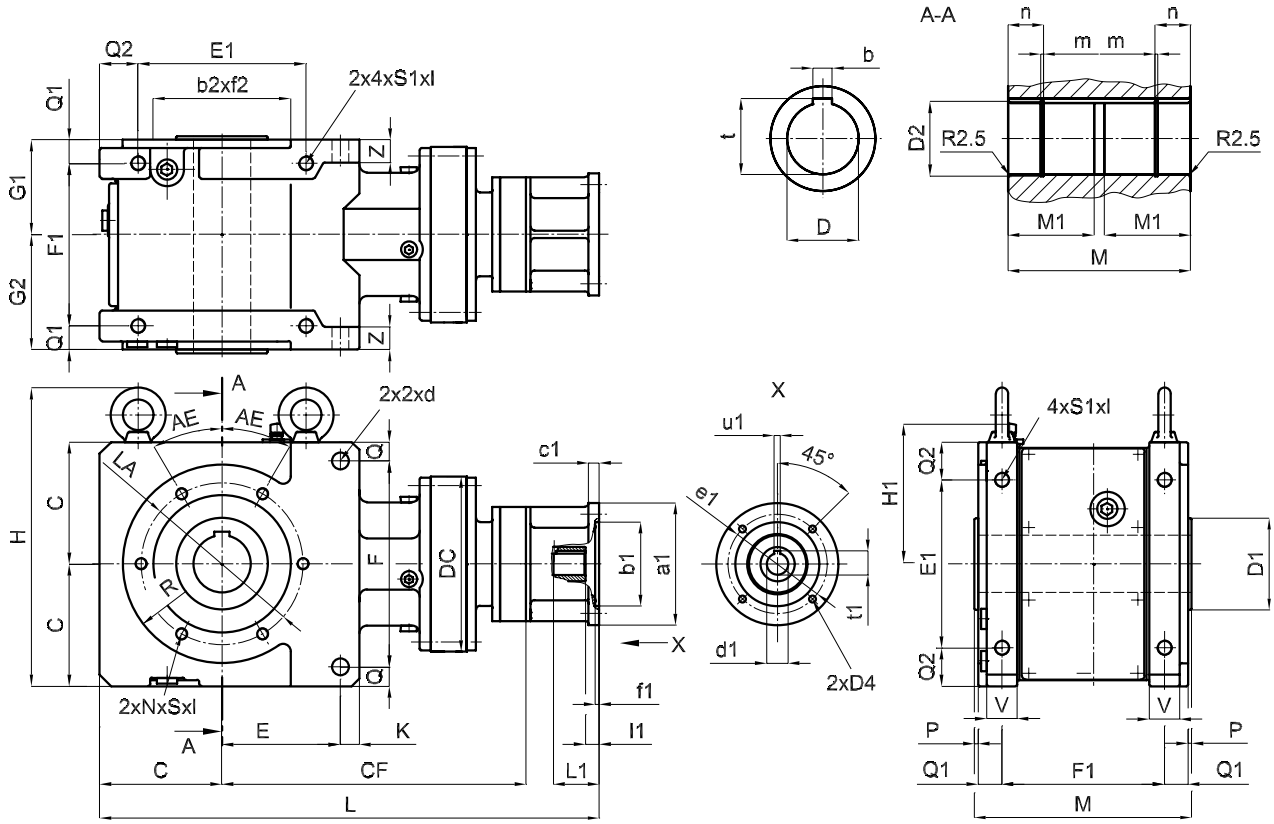
Size	DC	C	E K	Q F d	Q1 F1	Q2 E1	P M	V Z	G1 G2	H H1	b2 f2	D b t	D1 D2	M1 m n	LA AE R	N S I	S1 I
A 4100DA A 4105DA	150	110	100 17	15 190 18	23 160	35 150	5 216	24 35	103 103	273 132	130 4	40 12 43.3	85 42.5	85 1.85 24	155 30 90	6 M10 17	M12 20
B 4110DA B 4115DA B 4110DB B 4115DB	204	130	135 20	20 220 18	27 195	35 190	5 259	32 25	122 127	321.5 152	150 4	60 18 64.4	100 63	100 2.15 30	175 30 105	6 M12 20	M16 26
C 4145DC	230	160	155 25	25 270 22	31 213	50 220	5 285	40 30	124 151	391 184	180 5	70 20 74.9	120 73	120 2.65 37	212 30 130	6 M16 26	M20 33
D 4160DB D 4165DB D 4160DC D 4165DC	300	190	190 28	28 324 26	36 254	65 250	7 340	48 40	145 181	470 214	210 5	90 25 95.4	140 93.5	145 3.15 37	255 30 150	6 M20 33	M24 40
E4170DC E4175DC	340	215	220 35	35 360 33	38 283	65 300	7 373	50 45	156 203	520 239	240 5	100 28 106.4	160 103.5	165 3.15 37	280 22.5 165	8 M20 35	M24 40



Size	Input Element	a1	b1	c1	d1	D4	e1	f1	l1	L	L1	u1	t1	Weight [kg]
A 4100 A 4105	71/A160	160	110	11	14	9	130	4.5	9	381	30	5	16.3	40
	80/C120	120	80	12	19	6.6	100	4.5	12	407	40	6	21.8	40
	80/C160	160	110	12	19	9	130	4.5	12	407	40	6	21.8	41
	90/C140	140	95	12	24	9	115	4.5	14	407	50	8	27.3	41
	90/C160	160	110	12	24	9	130	4.5	14	407	50	8	27.3	42
	100/112/C160	160	110	14	28	9	130	5	18	417	60	8	31.3	42
B 4110 B 4115 B 4125	80/A200	200	130	13	19	11	165	4.5	12	465	40	6	21.8	77
	90/A200	200	130	13	24	11	165	4.5	14	465	50	8	27.3	77
	100/112/C160	160	110	14	28	9	130	5	18	475	60	8	31.3	80.5
C 4145 C 4155	90/A200	200	130	11	24	11	165	4.5	14	562	50	8	27.3	106.5
	100/112/A250	250	180	13	28	14	215	5	18	572	60	8	31.3	110
	132/A300	300	230	17	38	14	265	5	23	598	80	10	41.3	117
D 4160	100/112/A250	250	180	14	28	14	215	5	18	662	60	8	31.3	203
	132/A300	300	230	16	38	14	265	5	23	684	80	10	41.3	210.5

Size	DC	C CF	E K	Q F d	Q1 F1	Q2 E1	P M	V Z	G1 G2	H H1	b2 f2	D b t	D1 D2	M1 m n	LA AE R	N S l	S1 l
A 4100 A 4105	150	110 211	100 17	15 190 18	23 160	35 150	5 216	24 35	103 103	273 132	130 4	40 12 43.3	85 42.5	85 1.85 24	155 30 90	6 M10 17	M12 20
B 4110 B 4115 B 4125	204	130 257	135 20	20 220 18	27 195	35 190	5 259	32 25	122 127	321.5 152	150 4	60 18 64.4	100 63	100 2.15 30	175 30 105	6 M12 20	M16 26
C 4145 C 4155	230	160 321	155 25	25 270 22	31 213	50 220	5 285	40 30	124 151	391 184	180 5	70 20 74.9	120 73	120 2.65 37	212 30 130	6 M16 26	M20 33
D 4160 D 4165	300	190 386	190 28	28 324 26	36 254	65 250	7 340	48 40	145 181	470 214	210 5	90 25 95.4	140 93.5	145 3.15 37	255 30 150	6 M20 33	M24 40

Example - LHYX-C4145EY1-249/100/112/A250

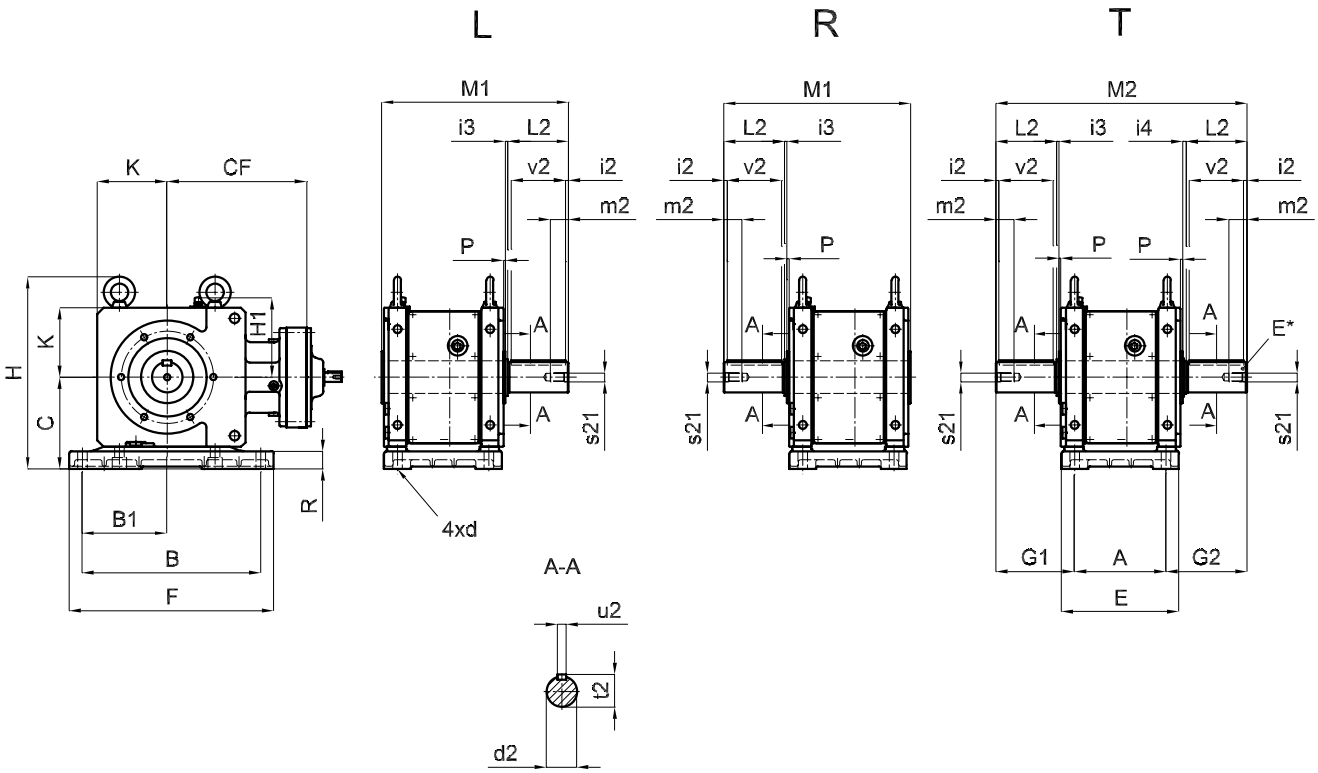


Size	DC	C	E K	Q F d	Q1 F1	Q2 E1	P M	V Z	G1 G2	H H1	b2 f2	D b t	D1 D2	M1 m n	LA AE R	N S l	S1 l
A 4100DA	150	110	100	15	23	35	5	24	103	273	130	40	85	85	155	6	M12
A 4105DA				190								12		1.85	30	M10	
			17	18	160	150	216	35	103	132	4	43.3	42.5	24	90	17	20
B 4110DA	204	130	135	20	27	35	5	32	122	321.5	150	60	100	100	175	6	M16
B 4115DA				220								18		2.15	30	M12	
B 4110DB																	
B 4115DB			20	18	195	190	259	25	127	152	4	64.4	63	30	105	20	26
C 4145DC	230	160	155	25	31	50	5	40	124	391	180	70	120	120	212	6	M20
				270								20		2.65	30	M16	
			25	22	213	220	285	30	151	184	5	74.9	73	37	130	26	33
D 4160DB	300	190	190	28	36	65	7	48	145	470	210	90	140	145	255	6	M24
D 4165DB				324								25		3.15	30	M20	
D 4160DC																	
D 4165DC			28	26	254	250	340	40	181	214	5	95.4	93.5	37	150	33	40
E4170DC	340	215	220	35	38	65	7	50	156	520	240	100	160	165	280	8	M24
E4175DC				360								28		3.15	22.5	M20	
			35	33	283	300	373	45	203	239	5	106.4	103.5	37	165	35	40

Input Element

Size	Input Element	a1	b1	c1	d1	D4	e1	f1	l1	CF	L	L1	u1	t1	Weight [kg]
A4100DA A4105DA	63/A140	140	95	11	11	9	115	4.5	7	259	426	23	4	12.8	42.5
	71/C105	105	70	11	14	6.6	85	4.5	9	259	426	30	5	16.3	42
	71/C140	140	95	11	14	9	115	4.5	9	259	426	30	5	16.3	42.5
B4110DA B4115DA	63/A140	140	95	11	11	9	115	4.5	7	311	498	23	4	12.8	77.5
	71/C105	105	70	11	14	6.6	85	4.5	9	311	498	30	5	16.3	77
	71/C140	140	95	11	14	9	115	4.5	9	311	498	30	5	16.3	77.5
B4110DB B4115DB	63/A140	140	95	11	11	9	115	4.5	7	323	513	23	4	12.8	81
	71/A160	160	110	11	14	9	130	4.5	9	323	513	30	5	16.3	81
	80/C120	120	80	12	19	6.6	100	4.5	12	323	539	40	6	21.8	81
	80/C160	160	110	12	19	9	130	4.5	12	323	539	40	6	21.8	82.5
	90/C140	140	95	12	24	9	115	4.5	14	323	539	50	8	27.3	81.5
	90/C160	160	110	12	24	9	130	4.5	14	323	539	50	8	27.3	82.5
C4145DC	71/A160	160	110	11	14	9	130	4.5	9	398	618	30	5	16.3	110.5
	80/C120	120	80	12	19	6.6	100	4.5	12	398	644	40	6	21.8	110.5
	80/C160	160	110	12	19	9	130	4.5	12	398	644	40	6	21.8	112
	90/C140	140	95	12	24	9	115	4.5	14	398	644	50	8	27.3	111
	90/C160	160	110	12	24	9	130	4.5	14	398	644	50	8	27.3	112
	100/112/C160	160	110	14	28	9	130	5	18	398	654	60	8	31.3	112.5
D4160DB D4165DB	71/A160	160	110	11	14	9	130	4.5	9	465	715	30	5	16.3	212.5
	80/C120	120	80	12	19	6.6	100	4.5	12	465	741	40	6	21.8	212.5
	80/C160	160	110	12	19	9	130	4.5	12	465	741	40	6	21.8	214
	90/C140	140	95	12	24	9	115	4.5	14	465	741	50	8	27.3	213
	90/C160	160	110	12	24	9	130	4.5	14	465	741	50	8	27.3	214
	100/112/C160	160	110	14	28	9	130	5	18	465	751	60	8	31.3	214.5
D4160DC D4165DC	80/A200	200	130	13	19	11	165	4.5	12	467	735	40	6	21.8	220.5
	90/A200	200	130	13	24	11	165	4.5	14	467	735	50	8	27.3	220.5
	100/112/C160	160	110	14	28	9	130	5	18	467	745	60	8	31.3	221.5
E4170DC E4175DC	80/A200	200	130	13	19	11	165	4.5	12	512	805	40	6	21.8	319.5
	90/A200	200	130	13	24	11	165	4.5	14	512	805	50	8	27.3	319.5
	100/112/C160	160	110	14	28	9	130	5	18	512	815	60	8	31.3	320.5

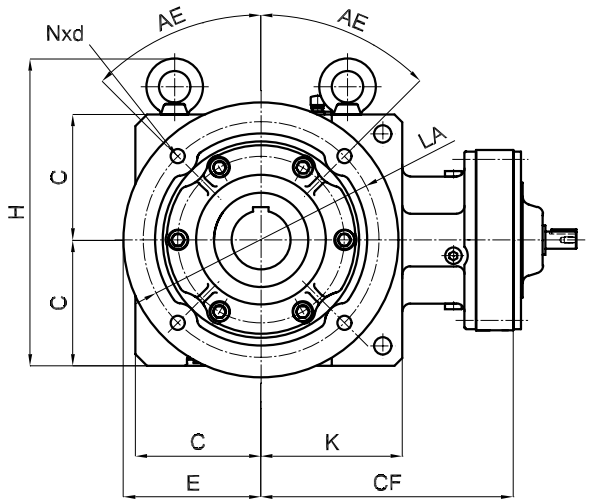
Example -
LHYX-C4145DCEY1-578/100/112/C160

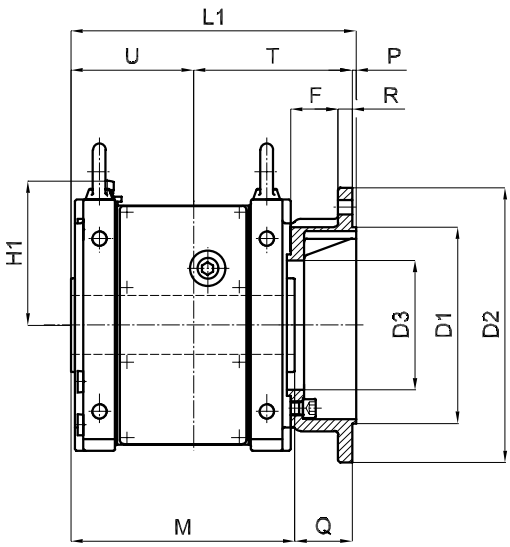


Size	C K CF	H H1	F B B1	E A R	G1 G2 d	d2 L2	i2 v2	t2 u2	P i3 i4	s21 m2	M1 M2	G1 G2 d
A4100 A4105	140 110 211	303 132	320 280 135	202 160 25	113 112 14	40 80	3 70	43 12	5 5 4	M16 36	301 385	113 112 14
B4110 B4115 B4125	170 130 257	362 152	385 345 160	245 195 35	157 157 18	60 120	10 100	64 18	5 5 5	M20 42	384 509	157 157 18
C4145 C4155	210 160 321	441 184	470 410 195	270 210 40	182.5 183.5 22	70 140	7.5 120	74.5 20	5 5 6	M20 42	430 576	181 182 22
D4160 D4165	245 190 386	525 214	560 500 235	320 260 45	220 216.5 26	90 170	5 150	95 25	7 10 6.5	M24 50	520 696.5	223 219.5 26
E4170 E4175	275 215 428	580 239	650 580 270	355 280 45	273.5 263 33	110 * 210	10 180	116 28	7 17 6.5	M24 50	600 816.5	272 261.5 33

* second shaft ∅ 100 mm

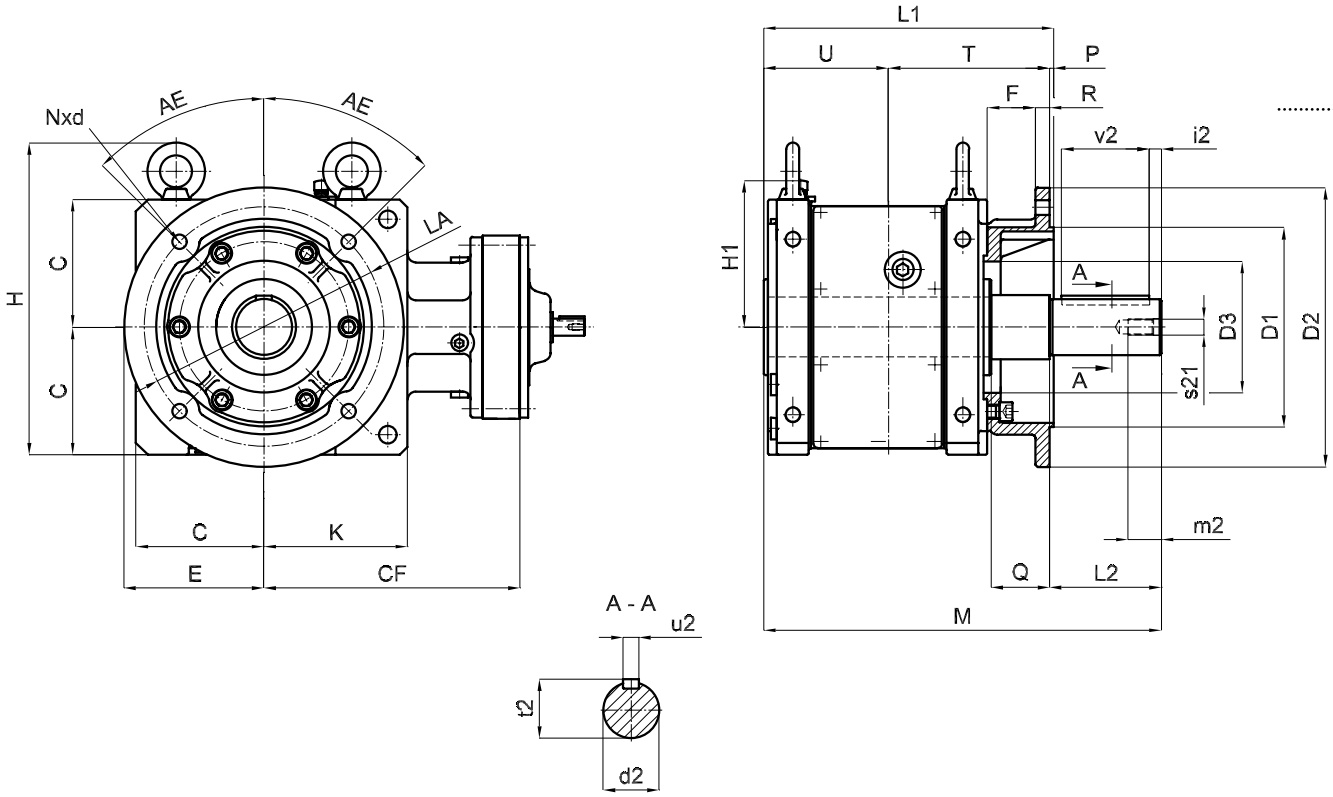
Example - LHH-C4155TEY1-249





size	C CF	E K	H H1	L1 U T	M Q	F P R	D2 D1 D3	N d	AE ° LA
A4100	110	125	273	280	216	50	250	4	45
A4105				108		4	180		
	211	117	132	168	60	15	120	14	215
B4110	130	150	321.5	324	259	50	300	4	45
B4115				132		4	230	14	
B4125	257	155	152	188	61	16	140		265
C4145	160	175	391	363	285	60	350	4	45
C4155				156		5	250		
	321	180	184	202	73	18	165	18	300
D4160	190	225	470	425	340	65	450	8	22.5
D4165				188		5	350		
	386	218	214	232	80	22	195	18	400
E4170	215	225	520	458	373	65	450	8	22.5
E4175				210		5	350		
	428	255	239	243	80	22	220	18	400

Example -LHF-C4155EY1-249



size	d2	i2	t2	s21	C	E	H	L1	M	F	D2	N	AE °
	L2	v2	u2	m2	CF	K	H1	U	Q	P	D1	d	LA
								T		R	D3		
A4100	40	3	43	M16	110	125	273	280	356	50	250	4	45
A4105								108		4	180		
	80	70	12	36	211	117	132	168	60	15	120	14	215
B4110	60	10	64	M20	130	150	321.5	324	440	50	300	4	45
B4115								132		4	230	14	
B4125	120	100	18	42	257	155	152	188	61	16	140		265
C4145	70	7.5	74.5	M20	160	175	391	363	483	60	350	4	45
C4155								156		5	250		
	140	120	20	42	321	180	184	202	73	18	165	18	300
D4160	90	5	95	M24	190	225	470	425	590	65	450	8	22.5
D4165								188		5	350		
	170	150	25	50	386	218	214	232	80	22	195	18	400
E4170	110	10	116	M24	215	225	520	458	663	65	450	8	22.5
E4175								210		5	350		
	210	180	28	50	428	255	239	243	80	22	220	18	400

Example - LHV-C4155EY1-249

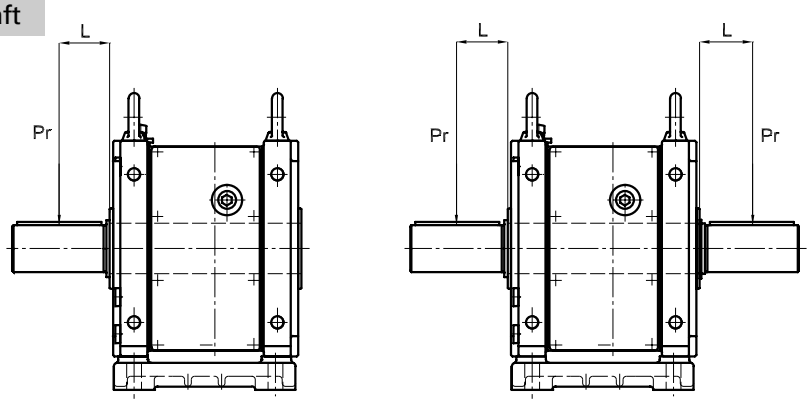
Size	M_{2max}[Nm]		5rpm	10rpm	20rpm	30rpm	35rpm	45rpm	50rpm	60rpm	75rpm	90rpm
A (40x80)	834	P_{r0}	9575	9575	8448	6759	6759	6759	5914	5914	5914	5914
B (60x120)	1670	P_{r0}	17551	12735	8000	6400	6400	6400	6000	6000	6000	6000
C (70x140)	3330	P_{r0}	24143	16335	10916	8526	7028	7028	7028	7028	7028	7028
D (90x170)	5780	P_{r0}	30625	20625	11484	10703	10703	10703	10703	10703	10703	10703
E (110x210)	8890	P_{r0}	35507	26957	16304	14203	12754	12754	12754	12754	12754	12754

Maximum output torque (M_{2max})[Nm] and allowable overhung load (P_{r0} [N]
solid shaft (one side, without flange, with std bearings)

Size	M_{2max}[Nm]		5rpm	10rpm	20rpm	30rpm	35rpm	45rpm	50rpm	60rpm	75rpm	90rpm
A 40x80	**700**	P_{r0}	5125	5125	8596	6877	6877	6877	6018	6018	6018	6018
B 60x12	1670	P_{r0}	16975	12430	7809	6247	6247	6247	5857	5857	5857	5857
C 70x14	3330	P_{r0}	19270	16532	11048	8629	7113	7113	7113	7113	7113	7113
D 90x17	5780	P_{r0}	31360	21120	11760	10960	10960	10960	10960	10960	10960	10960
E 110x2	**8500**	P_{r0}	37692	28615	17308	15077	13538	13538	13538	13538	13538	13538

Maximum output torque (M_{2max})[Nm] and allowable overhung load (P_{R0} [N]
solid shaft (second shaft at T-type, without flange, with std bearings)

limited by the shaft



if double output :
$P_{r0} >= P_{r1} + P_{r2}$

Correction factor Lf for load position

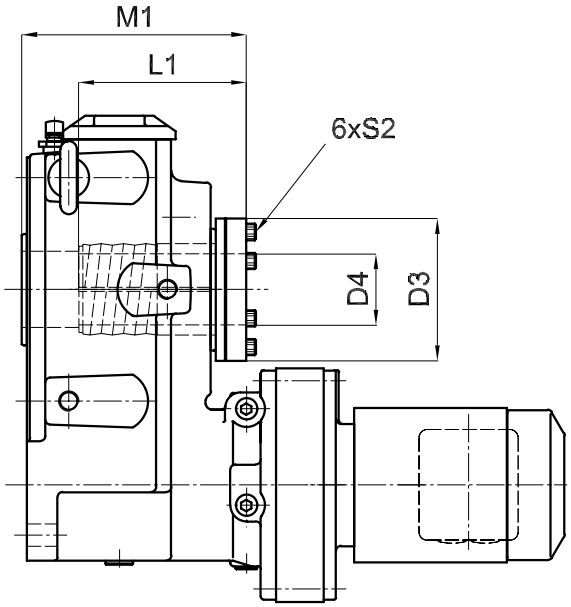
L [mm]	A 40x80	B 60x120	C 70x140	D 90x170	E 110x210
5	0,76	0.64	0.58		
10	0.79	0.67	0.61	0.49	
15	0.82	0.7	0.64	0.52	
20	0.85	0.73	0.67	0.55	0.4
25	0.88	0.76	0.7	0.58	0.43
30	0.91	0.79	0.73	0.61	0.46
35	0.94	0.82	0.76	0.64	0.49
40	0.97	0.85	0.79	0.67	0.52
45	1	0.88	0.82	0.7	0.55
50	1.03	0.91	0.85	0.73	0.58
60	1.09	0.97	0.91	0.79	0.64
70	1.15	1.03	0.97	0.85	0.7
80	1.21	1.09	1.03	0.91	0.76
90		1.15	1.09	0.97	0.82
100		1.21	1.15	1.03	0.88
120		1.33	1.27	1.15	1
140			1.39	1.27	1.12
160				1.39	1.24
180				1.51	1.36
200					1.48
225					1.63

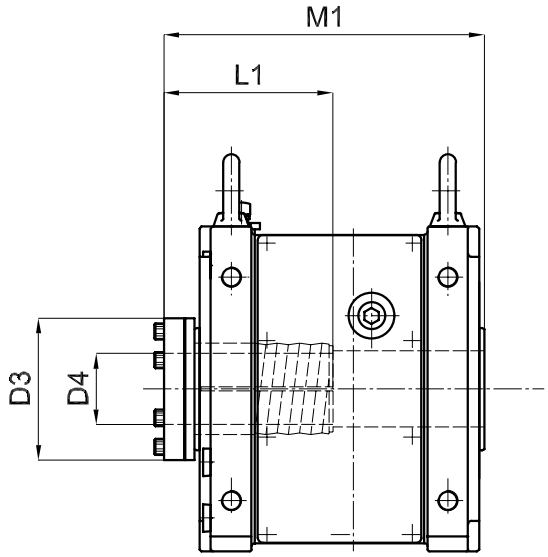
Correction factor Lf for load position / second shaft at T-type

L [mm]	A 40x80	B 60x120	C 70x140	D 90x170	E 100x210
5	0.79	0.67	0.61	0.49	
10	0.82	0.7	0.64	0.52	0.4
15	0.85	0.73	0.67	0.55	0.43
20	0.88	0.76	0.7	0.58	0.46
25	0.91	0.79	0.73	0.61	0.49
30	0.94	0.82	0.76	0.64	0.52
35	0.97	0.85	0.79	0.67	0.55
40	1	0.88	0.82	0.7	0.58
45	1.03	0.91	0.85	0.73	0.61
50	1.06	0.94	0.88	0.76	0.64
60	1.12	1	0.94	0.82	0.7
70	1.18	1.06	1	0.88	0.76
80	1.24	1.12	1.06	0.94	0.82
90		1.18	1.12	1	0.88
100		1.24	1.18	1.06	0.94
120		1.36	1.3	1.18	1.06
140			1.42	1.3	1.18
160				1.42	1.3
180					1.42
200					1.54
215					1.63

Helical Buddybox & Bevel Buddybox

Additional Dimensions





HBB					
size	D4	D3	s2	L1	M1
AA4090 AA4905	30 35 40	79	M10	112.5	140
A4100 A4105	45 50 55	99	M12	130	165
B4110 B4115 B4125	55 60 65	113	M12	145	185
C4145 C4155	65 70 75	138	M16	160	222
D4160 D4165	70 75 80 85	163	M20	195	153
E4170 E4175	80 85 90 100	180	M20	200	274

BBB					
size	D4	D3	s2	L1	M1
A4100 A4105	45 50 55	99	M12	130	239
B4110 B4115 B4125	55 60 65	113	M12	145	284
C4145 C4155	65 70 75	138	M16	160	315
D4160 D4165	70 75 80 85	163	M20	195	375
E4170 E4175	80 85 90 100	180	M20	200	408

Example - EHYM2-C4155GY3-249/F90L/4

Installation with Taper-Grip®

The Taper-Grip® Bushing is designed to give an easy on, easy off fit to the machine shaft for assembly and maintenance while giving a firm grip to the machine shaft in operation. Try to ensure you have adequate access for correct tightening of the screws.

Note: Satisfactory performance depends on proper installation. Therefore all instructions must be carefully followed.

Fitting the Reducer on the Machine Shaft

1. Check the size and condition of the machine shaft to which the reducer will be fitted. Permissible shaft tolerances are h11 for all shaft diameters.

2. Ensure all mating surfaces of the hollow gear shaft with inner grip, the inside and outside diameters of the Taper-Grip® Bushing and the machine shaft are free from burrs and corrosion. Clean each surface with a solvent to remove all traces of grease and oil.

3. Lightly oil each screw and insert into the Taper-Grip® Bush; ensure they do not protrude beyond the rear face.

4. Secure the two keys of the thrust collar in the face slots of the hollow gear shaft. Screw the Taper-Grip® Bushing into the hollow shaft in a clockwise direction until the bushing flange contacts the thrust collar.

5. Unscrew the Taper-Grip® Bushing until the screws are aligned with the pockets in the face of the thrust collar and a gap of 1 mm minimum exists between the flange and thrust collar. This may be easier if oneof the screws is removed and the pocket viewed through the threaded hole. Finger tighten all screws into the pockets.

6. Slide the reducer with the Taper-Grip® Bushing onto the machine shaft. Gradually cross tighten the screws using a torque wrench. Refer to the table below for the torque levels.

7. Fill the cavity between the machine shaft, the hollow gear shaft and the Taper-Grip® Bushing with grease. This prevents a build up of corrosion on the shaft end which may affect subsequent disassembly of the reducer.

8. Install a torque arm assembly if one is to be used.

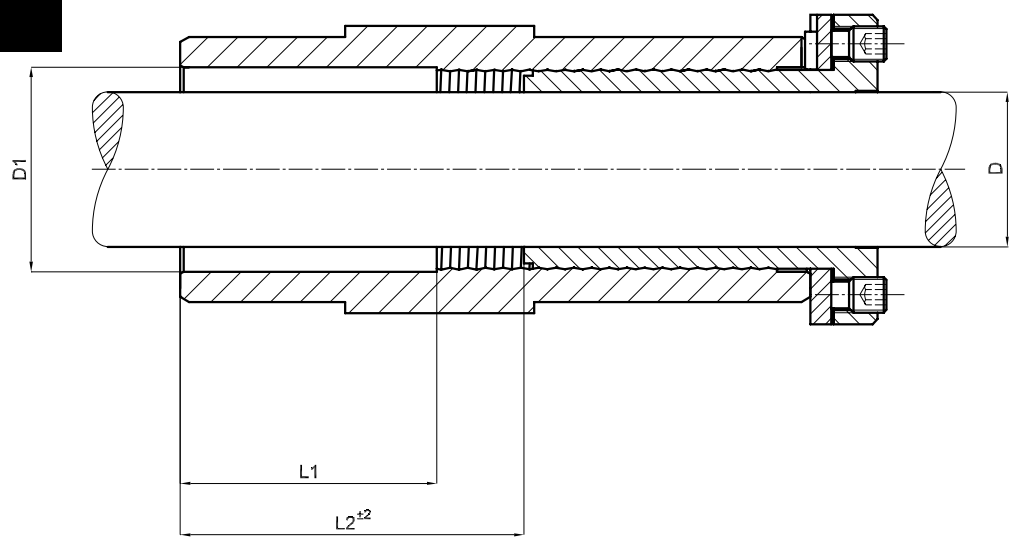
9. After the reducer has been running for 20 or 30 hours, re-torque the screws to the values in Table 1. Screw torque's should be subsequently checked at normal service (i.e. every 6 months).

Table 1

Taper Grip® Screw Tightening Torques		
Size	**Screw Size and Quantity**	**[Nm]**
AA only HBB	6 x M10	31
A	6 x M12	51
B	6 x M12	51
C	6 x M16	128
D	6 x M20	245
E	6 x M20	245

Note: Be sure to re-tighten the gear case bolt to the proper torque value.

Installation with Taper-Grip®



	HBB					BBB			
	D	D1	L1	L2		D	D1	L1	L2
AA	30-40	52.5	10	27					
A	42-55	68.5	15	26	A	42-55	68.5	86	108
B	50-65	80.5	15	37	B	50-65	80.5	109	136
C	60-75	92.5	15	62	C	60-75	92.5	116	155
D	70-85	103.5	15	58	D	70-85	103.5	150	180
E	80-100	121.5	15	73	E	80-100	121.5	178	208

Taper-Grip Bush

SUMITOMO CYCLO EUROPE carry three finished bored Taper-Grip Bushes per size of Buddybox reducer, as well as the non finished bush which can be reworked to your particular shaft size.

Consult SUMITOMO CYCLO EUROPE for extra price to rework bush.

Table2. Taper-Grip Bush Sizes

Size	Re-work bore [mm]	* Min Bore [mm]	Medium Bore [mm]	Max Bore Size [mm]
AA	Solid	30	35	40
A	39	42	45	55
B	43	50	60	65
C	43	60	70	75
D	56	70	75	85
E	68	80	90	100

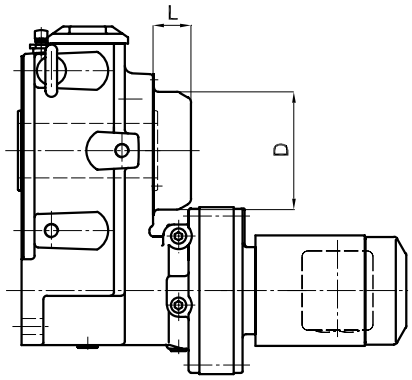
Removal of Taper-Grip® Bush

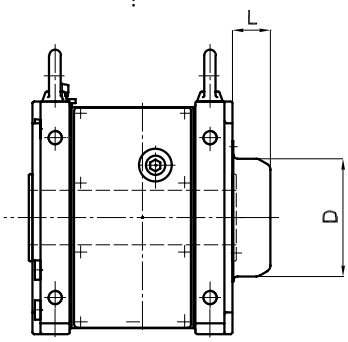
Slacken each screw gradually until they are free from the pockets in the thrust collar. Give the Taper-Grip® bush a sharp tap with a mallet to break the taper, this will free the reducer. Finger tighten two of the screws against the thrust collar to prevent the Taper-Grip® bush locking in the opposite direction as the reducer is removed from the shaft.

*If bore required is less than minimum bore shown in above table, please consult SUMITOMO CYCLO EUROPE with full application details.

Buddybox

Safety Cover Dimension Sheet

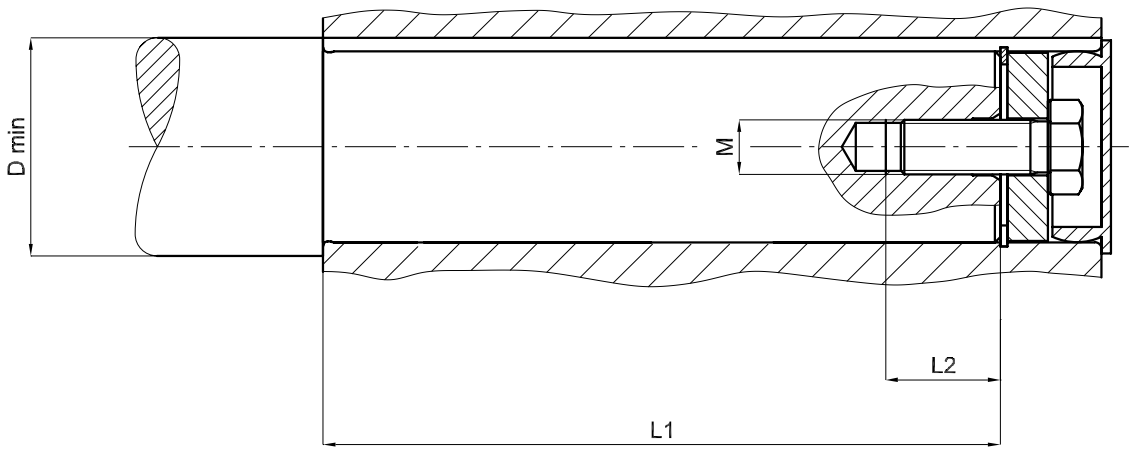




Size	L	D
AA4090 AA4905	38	90
A4100 A4105	45	116
B4110 B4115 B4125	45	135
C4145 C4155	52	162
D4160 D4165	64	190
E4170 E4175	69	210

Buddybox

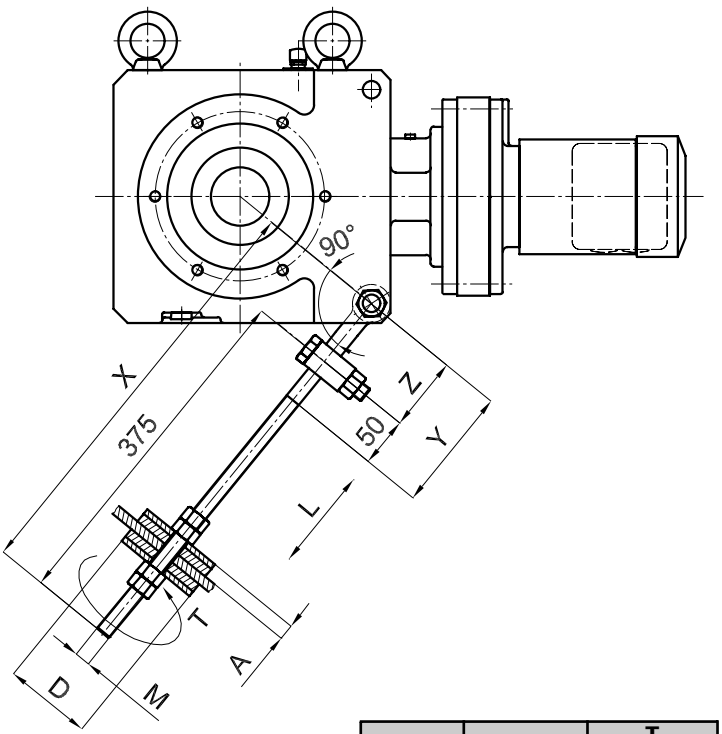
Hollow Shaft with Keyway Assembly

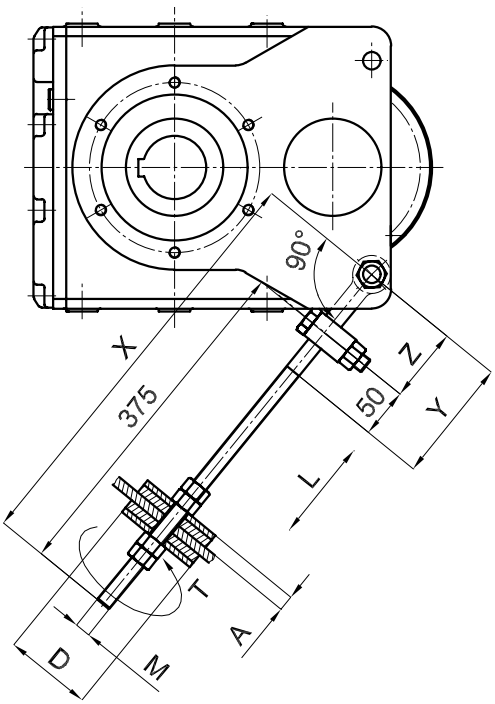


HBB	D min	M	L1	L2
AA	40	10	102	22
A	50	16	110	36
B	70	20	130	42
C	80	20	155	42
D	100	24	181	50
E	120	24	201	50

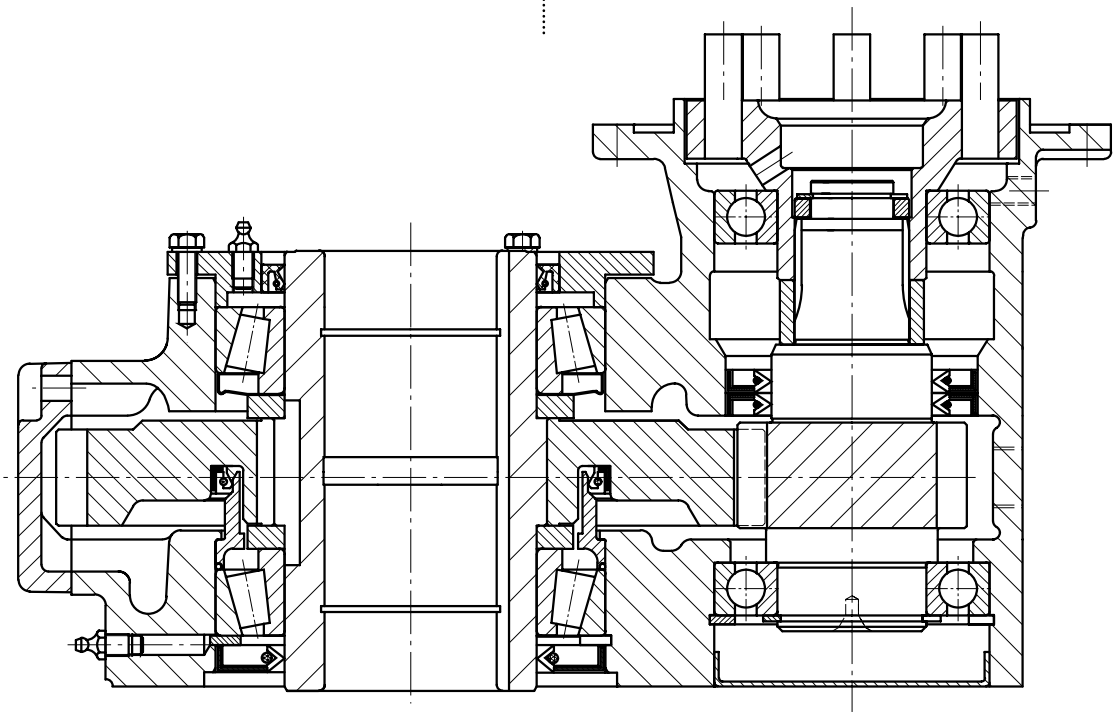
BBB	D min	M	L1	L2
A	50	16	192	36
B	70	20	229	42
C	80	20	248	42
D	100	24	303	50
E	120	24	336	50

HBB and BBB size	DIMENSION [mm]						
		A	**D**	**M**	**Y**	**X**	**Z**
	AA (only HBB)	16	60	20	115	440	65
	A	16	60	20	115	440	65
	B	16	60	20	115	440	65
	C	19	90	24	140	465	90
	D	19	90	24	140	465	90
	E	19	90	24	150	475	100





Size	**L** Axial Force [N]	**T** Tightening Torque [Nm]
AA (only HBB)	2256	8.0
A	4405	16.0
B	7230	26.0
C	12035	44.0
D	17285	63.0
E	21425	78.0



Drywell Design Benefits

1. No oil leakage at the output shaft seal.

2. Allows seperate lubrication for output bearings and internal gearing.

3. Both output bearings are grease are purgeable without affecting the sump lubricant.

4. Sump and bearing lubricant seperated by internally mounted gaiter spring oil seal.

5. Fitted to sizes C, D & E Helical Buddybox with taper roller bearings for vertical output shaft applications.

Buddybox Lubrication

1. Recommended lubricants (oil lubrication).
Any oil that meets the requirements as per DIN 51 517 part 3 may be used. Make sure that the correct viscosity class as per DIN 51 519 is selected depending on the actual working temperatures.

Helical Buddybox - Oil Capacity - Approximate Litres

Lubricant as per DIN 51 517 part 3	possible working temperatures °C ambient -20Þ 0Þ +20Þ +40Þ +60Þ +80Þ +100Þ 120Þ
CLP 68	
CLP 100	
CLP 150	
CLP 220	
CLP 320	

2. Oil Quantity
Some models need to be supplied with oil in two distinct locations, output side (Buddybox portion) and input side (Cyclo portion).

Note! All units are shipped without oil.
The following quantities are for guidance only.

Helical Buddybox
Oil Capacity
Approximate Litres

Size	Portion	Mounting Position					
		Y1	Y2	Y3	Y4	Y5	Y6
AA	Helical	0.6	0.6	0.5	0.6	1.1	1.0
	Cyclo	G	G	G	G	G	G
A	Helical	0.8	0.9	0.7	0.9	1.5	1.4
	Cyclo	G	G	G	G	G	G
B	Helical	1.0	1.5	1.0	1.5	2.0	1.8
	Cyclo	G	G	G	G	G	G
C	Helical	1.7	2.1	1.3	2.1	4.7	3.5
	Cyclo	0.4	0.4	0.4	0.4	G	G
	Cyclo DC	G	G	G	G	G	G
D	Helical	2.7	3.5	2.0	3.5	7.0	5.5
	Cyclo	0.7	0.7	0.7	0.7	G	G
	Cyclo DB	G	G	G	G	G	G
	Cyclo DC	0.8	0.8	0.8	0.8	G	G
E	Helical	3.5	4.2	2.5	4.2	9.0	7.0
	Cyclo	0.9	0.9	0.9	0.9	G	G
	Cyclo DC	1.4	1.4	1.4	1.4	G	G

Bevel Buddybox
Oil Capacity
Approximate Litres

Size	Portion	Mounting Position					
		Y1	Y2	Y3	Y4	Y5	Y6
A	Bevel	0.9	0.9	1.0	0.9	1.3	1.0
	Cyclo	G	G	G	G	G	G
B	Bevel	1.5	1.3	1.5	1.5	2.0	1.6
	Cyclo	G	G	G	G	G	G
C	Bevel	3.0	3.0	3.0	3.0	3.0	4.0
	Cyclo	0.4	G	0.4	G	0.4	0.4
	Cyclo DC	G	G	G	G	G	G
D	Bevel	5.2	5.2	5.2	5.2	5.2	6.7
	Cyclo	0.7	G	0.7	G	0.7	0.7
	Cyclo DB	G	G	G	G	G	G
	Cyclo DC	0.8	G	0.8	G	0.8	0.8
E	Bevel	7.5	7.5	7.5	7.5	7.5	9.5
	Cyclo	0.9	G	0.9	G	0.9	0.9
	Cyclo DC	1.4	G	1.4	G	1.4	1.4

3. Oil Replenishment and Change Interval

3.1 All oil levels and oil quantity must be checked every 5,000 hours. If the oil is contaminated, burned or waxed, change the oil immediately and flush out the box if necessary.

3.2 Under normal operating conditions, we recommend an oil change every 10,000 hours of operation. The intervals should, however, not exceed 2 years.

3.3 An oil change for the first time after approximately 500 hours of operation is highly recommended and a more frequent oil change will give you a much longer life (3,000 - 5,000 hours).

3.4 The above suggestions are however, subject to change if the units are running in high temperature, high humidity or corrosive environments. If any of these situations exist, the lubricant may have to be changed more frequently.

'G' denotes GREASE LUBRICATION AT FACTORY BEFORE DESPATCH

4. Grease

4.1 The CYCLO portion of sizes AA, A and B are greased packed with SHELL ALVANIA RA before leaving the factory and is maintenance free for 20 000 operating hours or 4 - 5 years life.

4.2 The CYCLO portion of sizes C, D and E (Verticle Y5, Y6 on Helical Buddybox and Y2, Y4 on Bevel Buddybox) are grease packed with SHELL ALVANIA R2 before leaving the factory.They should be regreased for the first time after 500 hours of operation. Further regreasing is recommended every 3 to 6 months of operation.