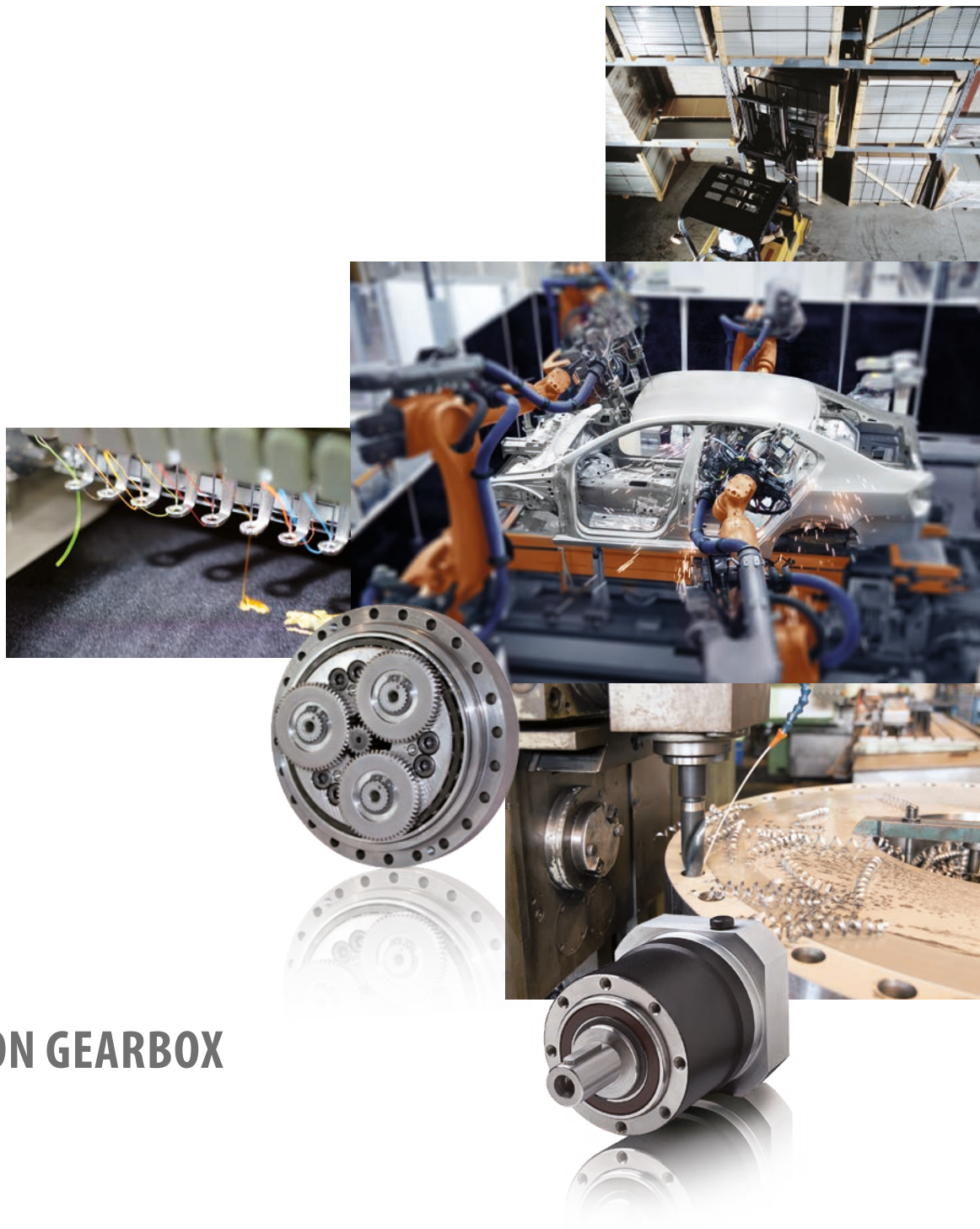


Sumitomo Drive Technologies



PRECISION GEARBOX

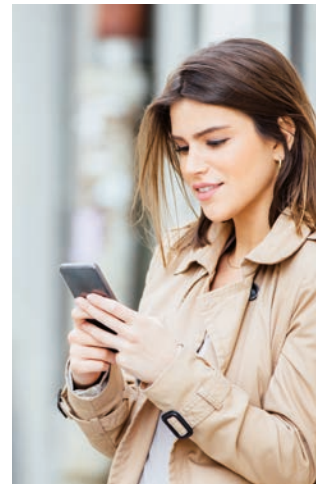
Keeping up with the fast pace of the future

The rapid development of information technologies has changed all areas of our lives. Internet, social media, online shopping, video-on-demand, smartphones and a high degree of networking accelerate our lives. Products must be available anywhere and any time. This has a major impact on the development of fast logistics systems and on infrastructure such as factories, storage facilities, sea and airports, railways, etc.

In the industrial sector, the development of Industry 4.0 in recent years has brought about significant changes in mechanical and plant engineering.

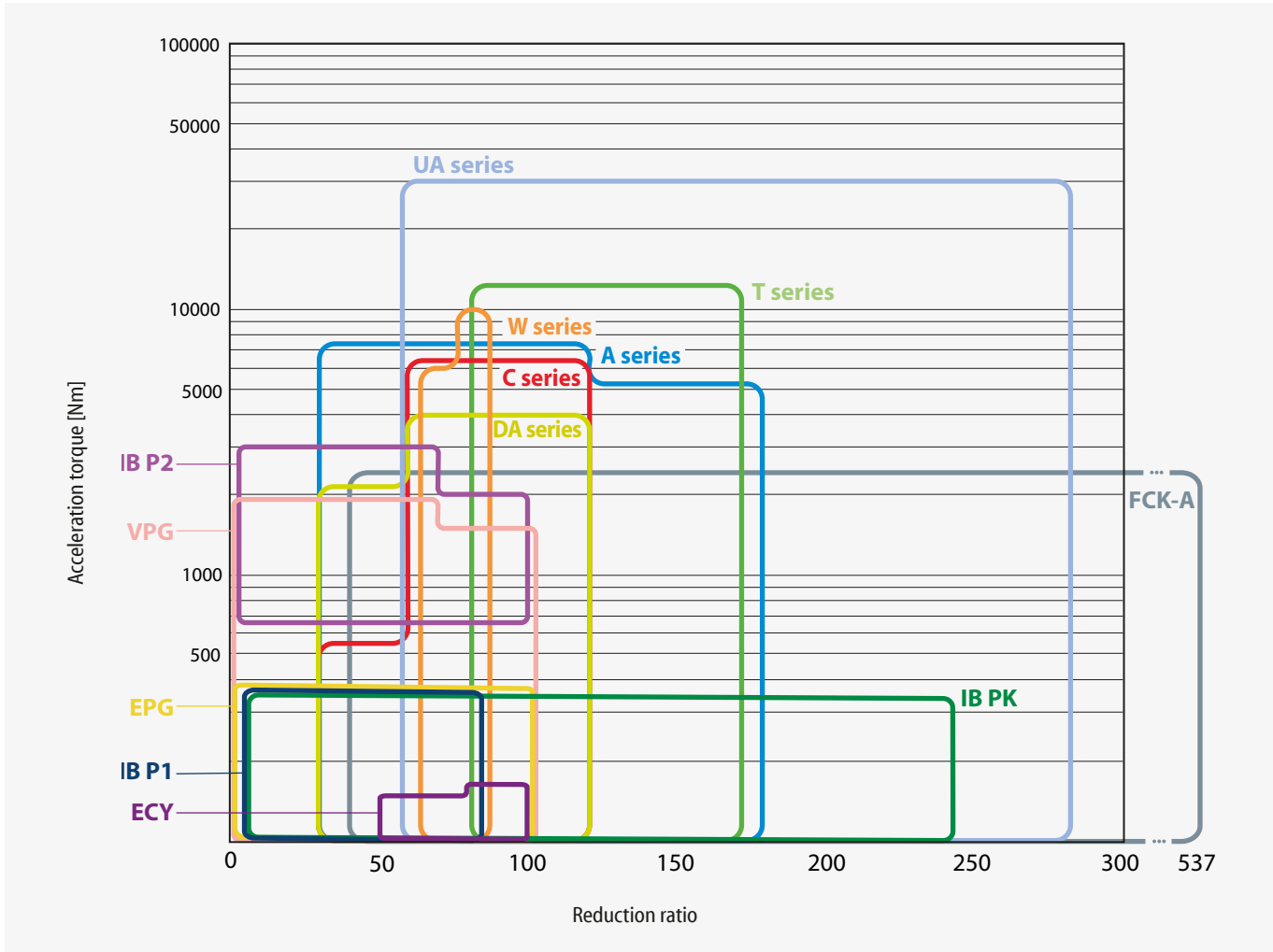
The industrial world is increasingly entering an era of automation and labour saving. To remain competitive, companies must optimise their operational and production processes. Robots, machine tools and automated factories must be flexible, fast and individual. This trend towards the automation of all processes even affects the development of modern medical equipment. Speed and precision are crucial. Most industrial processes require extremely powerful precision gearboxes with little or no backlash.

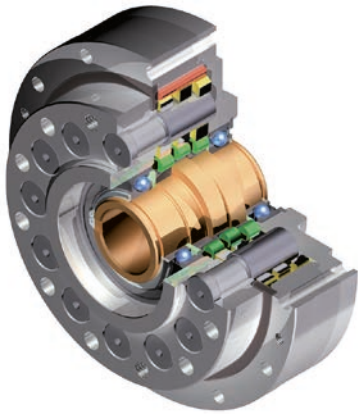
At Sumitomo Drive Technologies, we are familiar with these growing challenges and provide a comprehensive range of products for tasks that demand maximum performance. We support our customers by developing tailor-made, differentiating solutions.



Selection diagram

Please determine ratio and acceleration torque according to your requirements in order to pre-select the right series for your application.





FC-A

Features and advantages

More cost-efficient, high-precision reduction kit

For use in conjunction with the customer's output bearing.

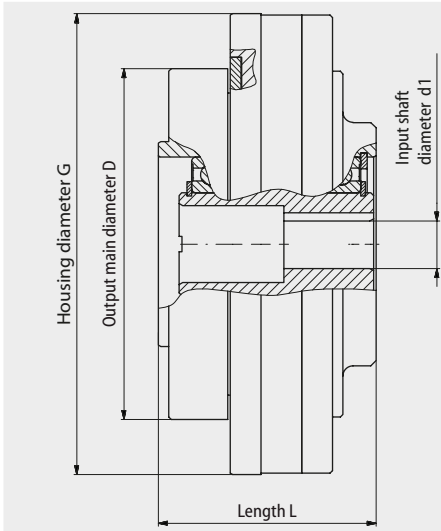
Maximum freedom for installation of specific bearings and for integration into the customer's machine design.

Important features

- No mechanical backlash / 1 arcmin lost motion
- 6 sizes
- Ratios 1:29, 1:59, 1: 89, 1:119, 1:179 (availability depends on size)
- Acceleration torque up to 7,610 Nm
- Input speed up to 6,150 rpm
- Torsional stiffness up to 1,100 Nm/arcmin
- Maintenance-free
- Motor mounting with key or clamp ring/coupling on request
- Motor adapter on request

FINE CYCLO A SERIES

Main dimensions and weight



Size	Length L [mm]	Diameter G [mm]	Diameter D [mm]	Diameter d1 (1) [mm]	Weight [kg]
A15	57	115	87	14	2.7
A25	73	145	112	22	5.2
A35	85	180	137	30	9.6
A45	97.5	220	172	38	18
A65	117	270	212	55	30
A75	131	310	237	64	46

(1) Maximum values, adapted to the customer's motor

Main data torque & speed

Size	Nominal output torque (1) [Nm]	Acceleration / braketorque [Nm]	Mean input speed (2) [rpm]	Max. input speed [rpm]
A15	(i 59, 89) 149	335	5600	6150
A25	(i 29) 283 (i 59...119) 349	721	3100	4350
A35	(i 29) 499 (i 59...119) 668	1390	2500	3500
A45	(i 29) 1060 (i 59...179) 1390	2910	1900	2700
A65	(i 29) 1870 (i 59...179) 2570	5130	1500	2200
A75	(i 29) 3580 (i 59...119) 3900	7610	1200	1950

(1) At input speed $n_1=1,500$ rpm; for A75 (i 29) at input speed $n_1=1,000$ rpm

(2) At 50% ED

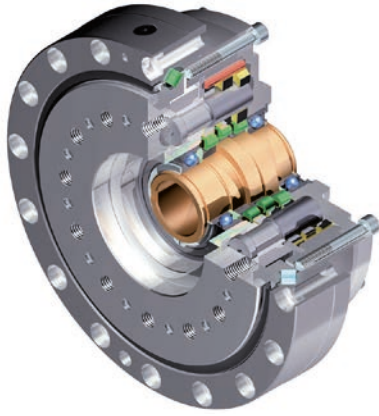
Output bearing capacity

Gearbox without bearing on the output side

Available ratios

Size	Ratios
A15	59 / 89
A25	29 / 59 / 89 / 119
A35	29 / 59 / 89 / 119
A45	29 / 59 / 89 / 119 / 179
A65	29 / 59 / 89 / 119 / 179
A75	29 / 59 / 89 / 119

The above technical data is intended to enable a rough pre-selection only.



F1C-A

Features and advantages

Unit with high-capacity cross roller bearing

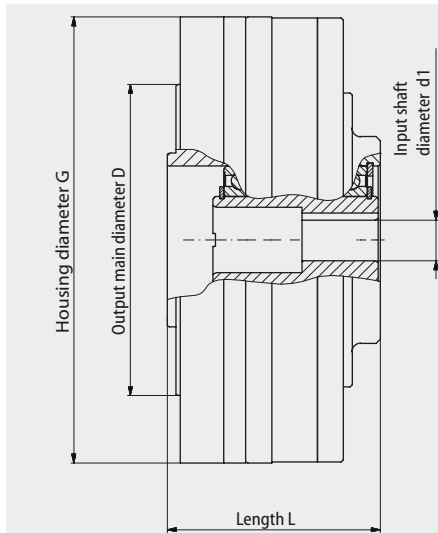
Combination of zero backlash gearbox and precision cross roller bearing.
 Sizes 45, 65 and 75 provide extremely high support.

Important features

- No mechanical backlash / 1 arcmin lost motion
- 6 sizes
- Ratios 1:29, 1:59, 1: 89, 1:119, 1:179 (availability depends on size)
- Acceleration torque up to 7,610 Nm
- Input speed up to 6,150 rpm
- Torsional stiffness up to 1,100 Nm/arcmin
- Maintenance-free (for sizes 45, 65 and 75, regreasing of the cross roller bearing required)
- Motor mounting with key or clamp ring/coupling on request
- Motor adapter on request

FINE CYCLO A SERIES

Main dimensions and weight



Size	Length L [mm]	Diameter G [mm]	Diameter D [mm]	Diameter d1 (1) [mm]	Weight [kg]
A15	67	140	96	14	6
A25	81	170	117	22	9.5
A35	98	205	143	30	16.5
A45	112.5	265	198	38	30
A65	150	350	269	55	64
A75	164	430	313	64	107

(1) Maximum values, adapted to the customer's motor

Main data torque & speed

Size	Nominal output torque (1) [Nm]	Acceleration / brake torque [Nm]	Mean input speed (2) [rpm]	Max. input speed [rpm]	
A15	(i 59, 89)	149	335	5600	6150
A25	(i 29)	283	721	3100	4350
	(i 59...119)	349		4200	
A35	(i 29)	499	1390	2500	3500
	(i 59...119)	668		3300	
A45	(i 29)	1060	2910	1900	2700
	(i 59...179)	1390		2600	
A65	(i 29)	1870	5130	1500	2200
	(i 59...179)	2570		2000	
A75	(i 29)	3580	7610	1200	1950
	(i 59...119)	3900		1750	

(1) At input speed $n_1=1,500$ rpm; for A75 (i 29) at input speed $n_1=1,000$ rpm
 (2) At 50% ED

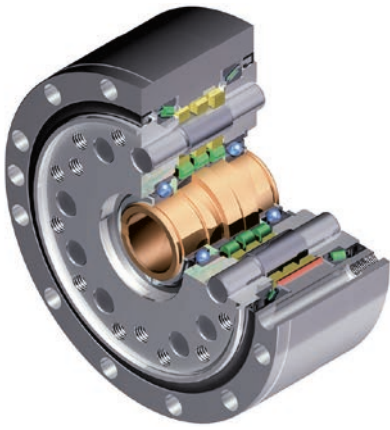
Output bearing capacity

Size	Max. permissible bending moment [Nm]
A15	460
A25	770
A35	1350
A45	3350
A65	6700
A75	14400

Available ratios

Size	Ratios
A15	59 / 89
A25	29 / 59 / 89 / 119
A35	29 / 59 / 89 / 119
A45	29 / 59 / 89 / 119 / 179
A65	29 / 59 / 89 / 119 / 179
A75	29 / 59 / 89 / 119

The above technical data is intended to enable a rough pre-selection only.



F2C-A

Features and advantages

Extremely compact and fully sealed precision gearbox

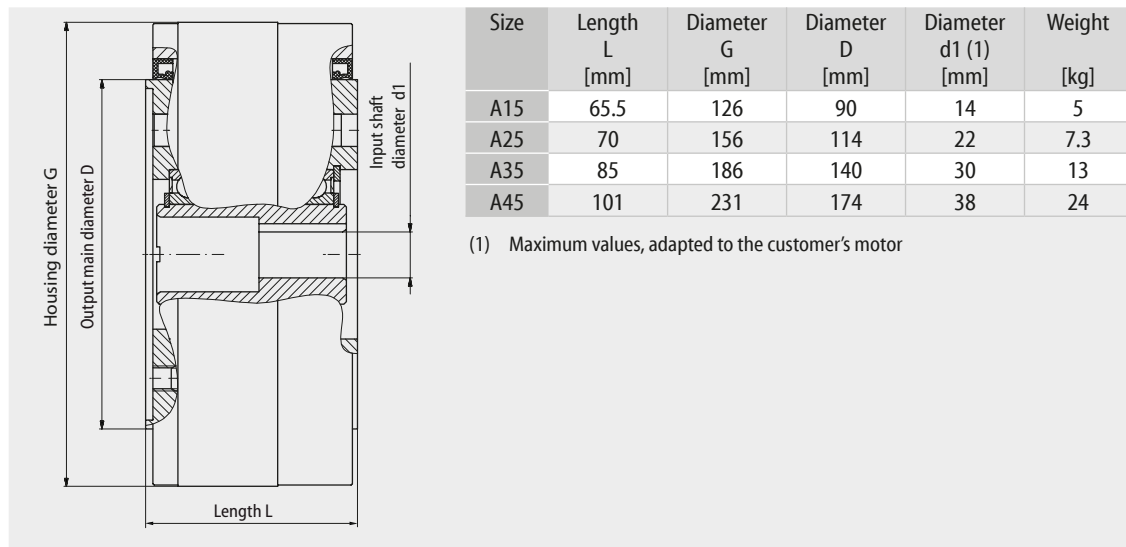
Tapered roller bearing integrated directly in the gearbox housing.
Extremely compact design and maximum power density.

Important features

- No mechanical backlash / 1 arcmin lost motion
- 4 sizes
- Ratios 1:29, 1:59, 1: 89, 1:119, 1:179 (availability depends on size)
- Acceleration torque up to 2,910 Nm
- Input speed up to 6,150 rpm
- Torsional stiffness up to 445 Nm/arcmin
- Maintenance-free
- Motor mounting with key or clamp ring/coupling on request
- Motor adapter on request

FINE CYCLO A SERIES

Main dimensions and weight



Main data torque & speed

Size	Nominal output torque (1) [Nm]	Acceleration / brake torque [Nm]	Mean input speed (2) [rpm]	Max. input speed [rpm]
A15	(i 59, 89) 149	335	5600	6150
A25	(i 29) 283	721	4200	5050
	(i 59...119) 349			
A35	(i 29) 499	1390	3300	3950
	(i 59...119) 668			
A45	(i 29) 1060	2910	2600	3150
	(i 59...179) 1390			

- (1) At input speed $n_1=1,500$ rpm
(2) At 50% ED

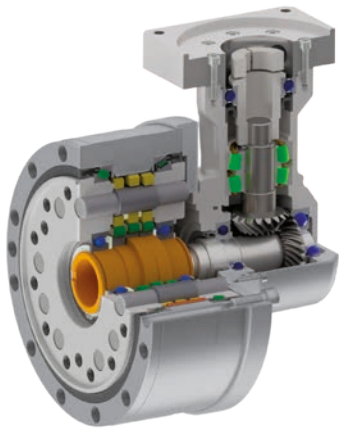
Output bearing capacity

Size	Max. permissible bending moment [Nm]	Max. permissible axial load push / pull [N]
A15	608	3920 / 2450
A25	1030	5400 / 3920
A35	1620	7850 / 5400
A45	2550	11800 / 6870

Available ratios

Size	Ratios
A15	59 / 89
A25	29 / 59 / 89 / 119
A35	29 / 59 / 89 / 119
A45	29 / 59 / 89 / 119 / 179

The above technical data is intended to enable a rough pre-selection only.



F2CK-A

Features and advantages

Precision gearbox with angle prestage

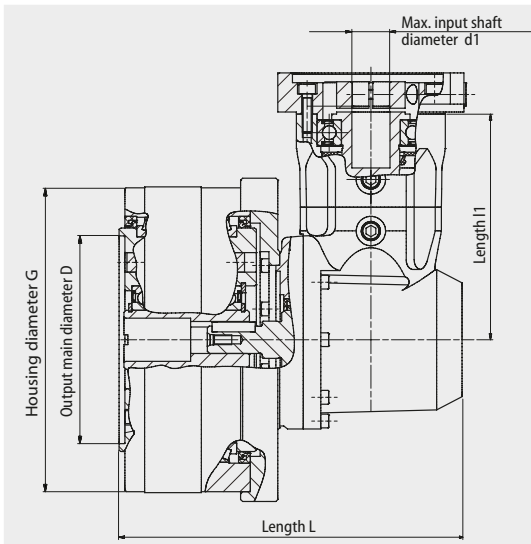
Direct installation of the angle prestage for compact design.
Combination of two excellent gearboxes with high input speeds and a high load capacity possible.

Important features

- Mechanical backlash < 2 arcmin
- 4 sizes
- Ratios 1:44, 1:87, 1:89, 1:134, 1:177, 1:179, 1:267, 1:269, 1:357, 1:537 (availability depends on size)
- Acceleration torque up to 2,183 Nm
- Input speed up to 6,000 rpm
- Torsional stiffness up to 445 Nm/arcmin
- Maintenance-free
- Motor mounting with motor adapter

FINE CYCLO K-A SERIES

Main dimensions and weight



Size	Length L [mm]	Length l1 [mm]	Diameter G [mm]	Diameter D [mm]	Diameter d1 (1) [mm]	Weight [kg]
A15	170.5	115	126	90	24	8.1
A25	175	115	156	114	24	11.3
A35	208	146	186	140	35	20.3
A45	224	146	231	174	35	32.6

(1) Maximum values, adapted to the customer's motor

Main data torque & speed

Size	Nominal output torque (1) [Nm]	Acceleration / brake torque [Nm]	Max. input speed (2) [rpm]	Max. input speed (short term) [rpm]
A15	(i 88.5 ... 267)	196 / 335	6000	6000
A25	(i 43.5, 87)	373	6000	6000
	(i 88.5 ... 357)	460		
A35	(i 43.5...87)	657	5000	5000
	(i 85.5 ... 357)	879		
A45	(i 43.5...87)	1390	5000	5000
	(i 88.5...537)	1830		

- (1) At input speed $n_1=6000$ rpm
(2) At 50% ED

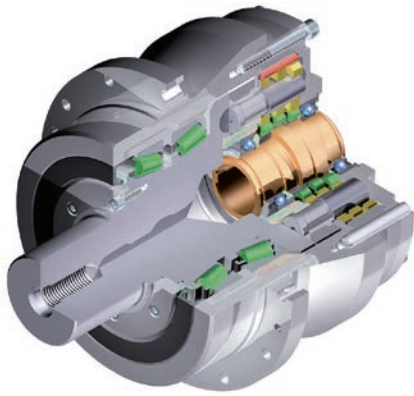
Output bearing capacity

Size	Max. permissible bending moment [Nm]	Max. permissible axial load push / pull [N]
A15	608	3920 / 2450
A25	1030	5400 / 3920
A35	1620	7850 / 5400
A45	2550	11800 / 6870

Available ratios

Size	Ratios
A15	88.5 / 133.5 / 177 / 267
A25	43.5 / 87 / 88.5 / 133.5 / 177 / 178.5 / 267 / 357
A35	43.5 / 87 / 88.5 / 133.5 / 177 / 178.5 / 267 / 357
A45	43.5 / 87 / 88.5 / 133.5 / 177 / 178.5 / 267 / 268.5 / 357 / 537

The above technical data is intended to enable a rough pre-selection only.



F3C-A

Features and advantages

Precision gearbox with output shaft

Combination of a zero backlash gearbox and a heavy-duty tapered roller bearing to support an output shaft.

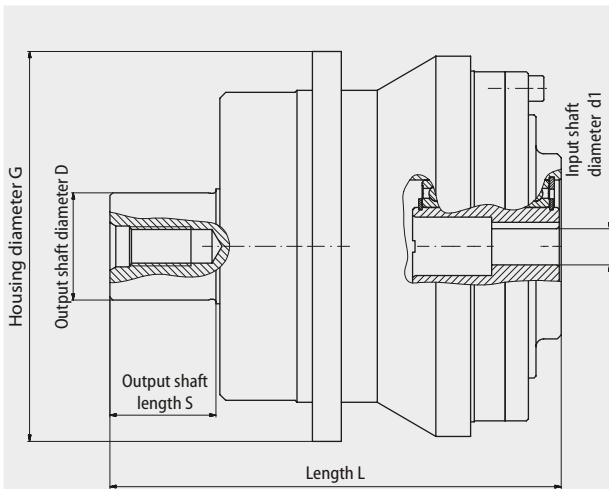
Offers an extremely high radial capacity on the output shaft.

Important features

- No mechanical backlash / 1 arcmin lost motion
- 6 sizes
- Ratios 1:29, 1:59, 1: 89, 1:119, 1:179 (availability depends on size)
- Acceleration torque up to 7,610 Nm
- Input speed up to 6,150 rpm
- Torsional stiffness up to 910 Nm/arcmin
- Maintenance-free
- Motor mounting with key or clamp ring/coupling on request
- Motor adapter on request

FINE CYCLO A SERIES

Main dimensions and weight



Size	Length L [mm]	Diameter G [mm]	Diameter D [mm]	Length S [mm]	Diameter d1 (1) [mm]	Weight [kg]
A15	164	140	35	35	14	8.5
A25	196	170	45	45	22	15.5
A35	234	200	55	55	30	27
A45	280	250	70	70	38	48
A65	347	300	90	90	55	94
A75	387	350	100	100	64	134

(1) Maximum values, adapted to the customer's motor

Main data torque & speed

Size	Nominal output torque (1) [Nm]	Acceleration / brake torque [Nm]	Mean input speed (2) [rpm]	Max. input speed [rpm]
A15	(i 59, 89) 149	335	5600	6150
A25	(i 29) 283 (i 59...119) 349	721	3100 4200	4350 5050
A35	(i 29) 499 (i 59...119) 668	1390	2500 3300	3500 3950
A45	(i 29) 1060 (i 59...179) 1390	2910	1900 2600	2700 3150
A65	(i 29) 1870 (i 59...179) 2570	5130	1500 2000	2200 2350
A75	(i 29) 3580 (i 59...119) 3900	7610	1200 1750	1950 2000

(1) At input speed $n_1=1,500$ rpm; for A75 (i 29) at input speed $n_1=1,000$ rpm
 (2) At 50% ED

Output bearing capacity

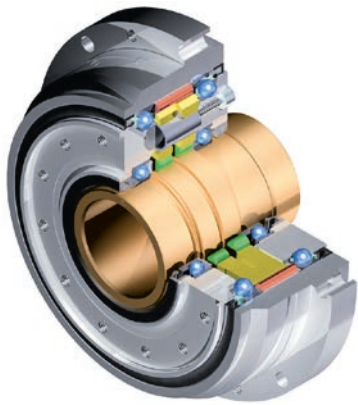
Size	Max. permissible radial load (1) [kN]
A15	17.4
A25	31.8
A35	44.4
A45	71.7
A65	114
A75	135

(1) Reference point: Middle of the output shaft at 15 rpm output speed

Available ratios

Size	Ratios
A15	59 / 89
A25	29 / 59 / 89 / 119
A35	29 / 59 / 89 / 119
A45	29 / 59 / 89 / 119 / 179
A65	29 / 59 / 89 / 119 / 179
A75	29 / 59 / 89 / 119

The above technical data is intended to enable a rough pre-selection only.



C Series

Features and advantages

Precision gearbox with large hollow shaft

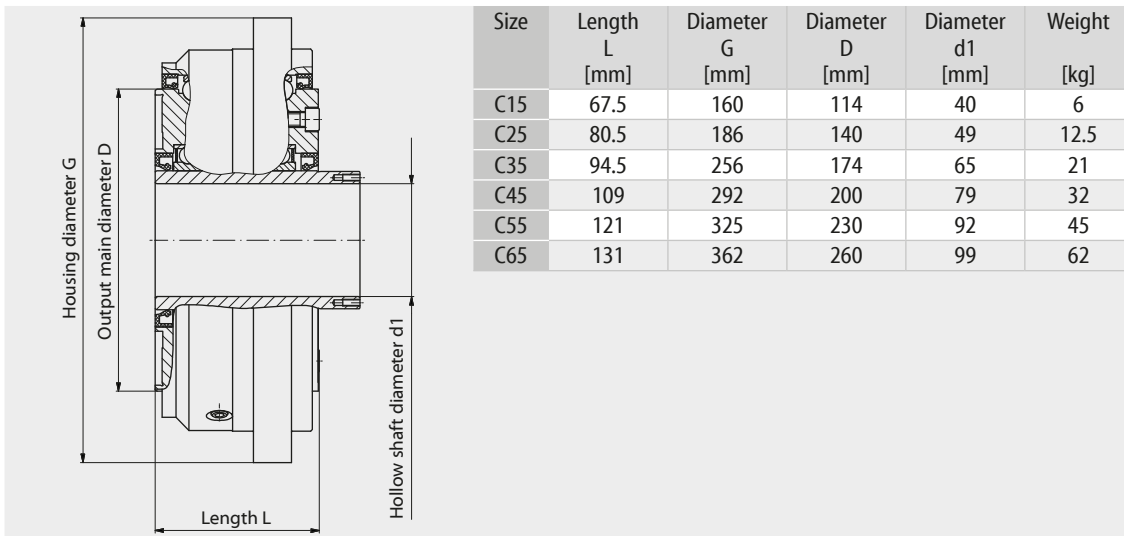
Tapered roller bearing or angular ball bearing integrated directly in the gearbox housing. Very large hollow shaft for easy laying of cables or similar.

Important features

- No mechanical backlash / 1 arcmin lost motion
- 6 sizes
- Ratios 1:29; 1:59, 1:89, 1:119 (availability size-dependent)
- Acceleration torque up to 6,278 Nm
- Input speed up to 4,000 rpm
- Torsional stiffness up to 1,030 Nm/arcmin
- Maintenance-free
- Motor mounting per timing belt or helical gearbox

FINE CYCLO C SERIES

Main dimensions and weight



Main data torque & speed

Size	Nominal output torque (1) [Nm]	Acceleration /brake torque [Nm]	Max. permissible input speed (2) [rpm]	Max. input speed [rpm]
C15	225	540	3200	4000
C25	432	1030	2900	3500
C35	822	1962	2100	2500
C45	1336	3188	1800	2100
C55	2055	4316	1500	1800
C65	3713	6278	1400	1700

(1) At input speed $n_1=1,500$ rpm; for C65 at input speed $n_1=1,000$ rpm
 (2) At 50% ED

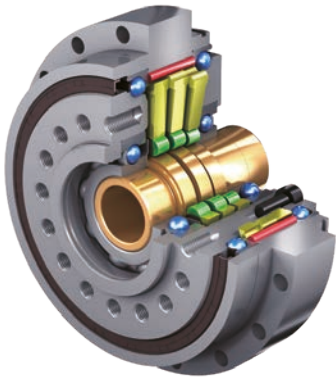
Output bearing capacity

Size	Max. permissible bending moment [Nm]	Max. permissible axial load [N]
C15	1069	3924
C25	1850	7848
C35	2850	10791
C45	3924	8339
C55	6082	10791
C65	8829	13734

Available ratios

Size	Ratios
C15	29 / 59 / 89 / 119
C25	59 / 89 / 119
C35	59 / 89 / 119
C45	59 / 89 / 119
C55	59 / 89 / 119
C65	59 / 89 / 119

The above technical data is intended to enable a rough pre-selection only.



DA Series

Features and advantages

Precision gearbox for increased requirements

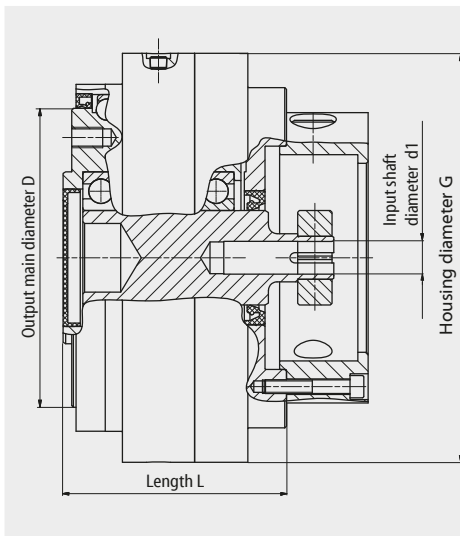
Angular ball bearings integrated directly in the gearbox housing. High torsional stiffness up to 540 Nm/arcmin.

Important features

- No mechanical backlash / 1 arcmin lost motion
- 6 sizes
- Ratios 1:29; 1:49, 1:59, 1:89, 1:119 (availability depends on size)
- Acceleration torque up to 4,000 Nm
- Input speed up to 6,150 rpm
- Torsional stiffness up to 540 Nm/arcmin
- Fully sealed version in modular design

FINE CYCLO DA SERIES

Main dimensions and weight



Size	Length L [mm]	Diameter G [mm]	Diameter D [mm]	Diameter d1 [mm]	Weight [kg]
DA15	84	136	90	19	6.5
DA25	97.5	159	110	24	10.5
DA35	106	189	130	32	12.5
DA40	119.5	198	140	35	14.5
DA45	123	221	155	38	23.5
DA50	130	238	174	38	24.5

Main data torque & speed

Size	Nominal output torque (1) [Nm]	Acceleration / brake torque [Nm]	Mean input speed (2) [Nm]	Max. input speed [rpm]
DA15	(i 41...89)	338	613	5600
	(i 119)			
DA25	(i 29)	625	4200	5050
	(i 41...89)			
DA35	(i 29)	846	1393	2960
	(i 41...89)			
DA40	(i 41...89)	1379	2500	2900
	(i 119)			
DA45	(i 29)	1674	2756	2240
	(i 41...89)			
DA50	(i 41...89)	2206	4000	2400
	(i 119)			

- (1) At input speed $n_1=1,500$ rpm
 (2) At 50% ED

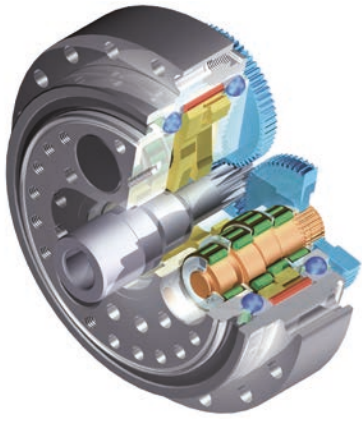
Output bearing capacity

Size	Max. permissible bending moment [Nm]	Max. permissible axial load [N]
DA15 (i 41...119)	883	3924
DA25 (i 29...119)	1660	5220
DA35 (i 29)	1620	6530
DA40 (i 41)	2430	9000
DA45 (i 29...41)	3090	13000
DA50 (i 41)	3600	15000

Available ratios

Size	Ratios
DA15	41 / 59 / 89 / 119
DA25	29 / 41 / 59 / 89 / 119
DA35	29 / 41 / 59 / 89 / 119
DA40	41 / 59 / 89 / 119
DA45	29 / 41 / 59 / 89 / 119
DA50	41 / 59 / 89 / 119

The above technical data is intended to enable a rough pre-selection only.



UA Series

Features and advantages

Double-stage precision gearbox with advanced bearing design and higher torque

Tapered roller bearing or angular ball bearing for the output shaft integrated directly in the gearbox housing.

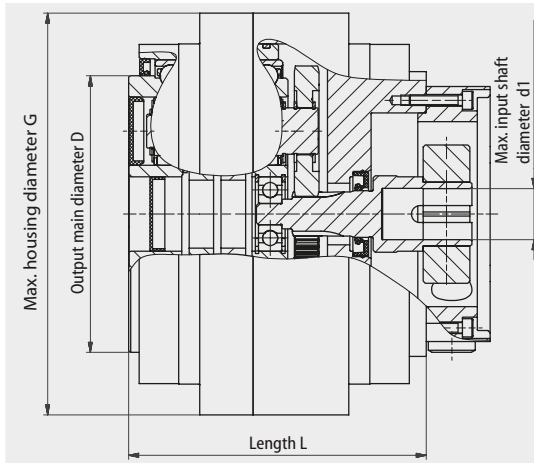
A planetary stage and three to four (UA115) eccentrics provide highest transmission accuracy, as well as minimal speed ripples and vibrations.

Important features

- No mechanical backlash / 0.5 arcmin lost motion
- 8 sizes
- Ratios 1:30 to 1:283 (availability depends on size)
- Acceleration torque up to 30,000 Nm
- Output speed up to 60 rpm
- Torsional stiffness up to 6,000 Nm/arcmin
- Input preconfigured for motor mounting with clamp ring or key and motor adapter

FINE CYCLO UA SERIES

Main dimensions and weight



Size	Length L (1)[mm]	Diameter G [mm]	Diameter D [mm]	Diameter d1 max. (2) [mm]	Weight (1) [kg]
UA15	104	133	90	28	8.5
UA25	109	165	110	28	13
UA35	130	189	130	38	20
UA45	138	224	155	38	30
UA55	158.5	244	174	42	43
UA65	170	295	210	42	55
UA80	194	325	238	42	90
UA115	272	570	400	on request	260

(1) Depending on the input concept

(2) Please contact us regarding larger diameters

Main data torque & speed

Size	Nominal output torque (1) [Nm]	Max. acceleration/brake torque [Nm]	Max. output speed [rpm]
UA15	250	625	60
UA25	500	1250	50
UA35	900	2250	40
UA45	1320	3300	30
UA55	2000	5000	30
UA65	3430	8575	30
UA80	5000	12500	25
UA115	12000	30000	20

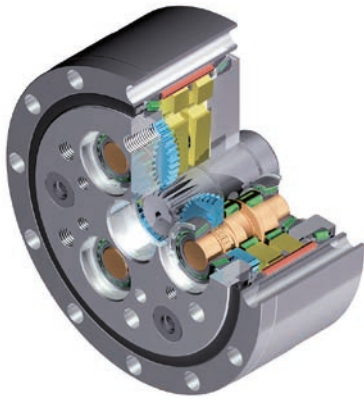
(1) At output speed $n_2=15$ rpm

Output bearing capacity

Size	Max. permissible bending moment [Nm]	Max. permissible axial load [N]
UA15	883	3924
UA25	1666	5194
UA35	2156	7840
UA45	3430	8820
UA55	4000	10780
UA65	7056	11000
UA80	10000	13734
UA115	44000	29000

Available ratios

Size	Ratios
UA15	60 / 84 / 91 / 127 / 139 / 171
UA25	78 / 88 / 115 / 124 / 145 / 173
UA35	82 / 87 / 121 / 152 / 166
UA45	82 / 99 / 121 / 130 / 152 / 166
UA55	81 / 97 / 126 / 145 / 169 / 241
UA65	89 / 121 / 136 / 144 / 163 / 171 / 199 / 249
UA80	93 / 103 / 122 / 155 / 166 / 190 / 239 / 283
UA115	Depending on the prestage



T Series

Features and advantages

Double-stage precision gearbox

Tapered roller bearing integrated directly in the gearbox housing.

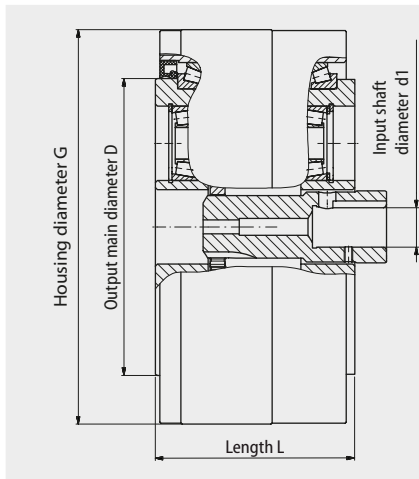
A planetary stage and three eccentrics provide the highest transmission accuracy, as well as minimal speed ripples and vibrations.

Important features

- No mechanical backlash / 0.5 arcmin lost motion
- 7 sizes
- Ratios 1:81, 1:118,5, 1:141, 1:171 (availability depends on size)
- Acceleration torque up to 11,000 Nm
- Input speed up to 8,460 rpm
- Torsional stiffness up to 1280 Nm/arcmin
- Motor mounting with key or clamp ring on request
- Motor adapter on request

FINE CYCLO T SERIES

Main dimensions and weight



Size	Length L [mm]	Diameter G [mm]	Diameter D [mm]	Diameter d1 (1) [mm]	Weight [kg]
T155	68	126	90	14	4.8
T255	78.5	156	114	16	8.4
T355	94	186	140	19	14
T455	97	231	174	28	24
T555	107	261	200	28	34
T655	121.5	296	230	35	48
T755	135	331	260	35	71

(1) Please contact us regarding alternative diameters

Main data torque & speed

Size	Nominal output torque (1) [Nm]	Max. acceleration/brake torque [Nm]	Max. output speed [rpm]
T155	167	417	60
T255	412	1030	50
T355	785	1960	40
T455	1280	3190	30
T555	1960	4910	30
T655	3140	7850	25
T755	4410	11000	25

(1) At output speed $n_2=15$ rpm

Output bearing capacity

Size	Max. permissible bending moment [Nm]	Max. permissible Axial load push/pull [N]
T155	883	3920 / 3920
T255	1180	5400 / 3920
T355	1820	7850 / 5400
T455	2750	11800 / 6870
T555	4170	15700 / 8340
T655	6380	19600 / 10800
T755	9570	24500 / 13700

Available ratios

Size	Ratios
T155	81 / 118.5 / 141
T255	81 / 118.5 / 141
T355	81 / 118.5 / 141
T455	81 / 118.5 / 141 / 171
T555	81 / 118.5 / 141 / 171
T655	81 / 118.5 / 141 / 171
T755	81 / 118.5 / 141 / 171

The above technical data is intended to enable a rough pre-selection only.



W Series

Features and advantages

Multi-stage precision gearbox with extremely large hollow shaft

Tapered roller bearing or angular ball bearing integrated directly in the gearbox housing. Very large hole for easy laying of cables or similar.

Important features

- No mechanical backlash / 1 arcmin lost motion
- 2 sizes
- Ratios 1:64 (size W55) and 1:87 (size W70)
- Acceleration torque up to 10,000 Nm
- Output speed up to 30 rpm
- Torsional stiffness up to 1,960 Nm/arcmin
- Motor mounting with coupling on request
- Motor adapter on request

FINE CYCLO W SERIES

Main dimensions and weight

Size	Length L [mm]	Diameter G [mm]	Diameter D [mm]	Diameter H [mm]	Weight [kg]
W55	129.5	355	258	90	68
W70	175.5	470	390	138	95

Construction of the input stage at customer's request

Main data torque & speed

Size	Nominal output torque (1) [Nm]	Max. acceleration/brake torque [Nm]	Max. output speed [rpm]
W55	2453	6130	30
W70	4000	10000	25

(1) At output speed $n_2=15$ rpm

Output bearing capacity

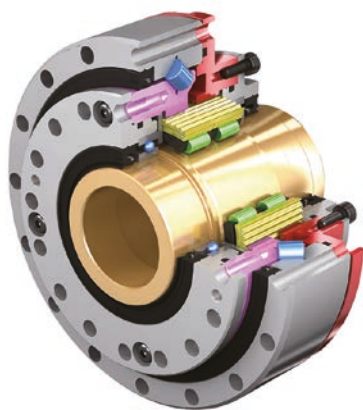
Size	Max. permissible bending moment [Nm]	Max. permissible axial load [N]
W55	9565	13734
W70	22000	29400

Available ratios

Size	Ratios
W55	64
W70	87.3

Other ratios depending on the prestage

The above technical data is intended to enable a rough pre-selection only.



E CYCLO

Features and advantages

Highly precise shaft gearing with hollow shaft

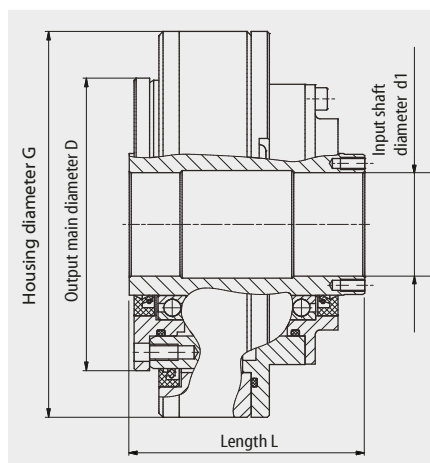
Complete set with integrated cross roller bearing and hollow shafts up to 25.5 mm

Important features

- High stiffness
- Lost motion 1.0 arcmin
- Transmission error 0.75 arcmin
- Maximum input speed 8,500 rpm
- Permissible torques up to 219 Nm
- Radial loads up to 2,050 N
- Axial loads up to 3,000 N
- Fully sealed including cross roller main bearing

E CYCLO ECY SERIES

Main dimensions and weight



Size	Length L [mm]	Diameter G [mm]	Diameter D [mm]	Diameter d1 (1) [mm]	Weight [kg]
ECY 103	52.5	74	54	19	0.9
ECY 105	56	84	64	21	1.2
ECY 107	58	95	72	25.5	1.6

(1) Please contact us regarding alternative diameters

Main data torque & speed

Size	Nominal output torque (1) [Nm]	Max. acceleration/brake torque [Nm]	Mean input speed (2) [Nm]	Max. Input speed [rpm]	
ECY 103	(i 50)	16	34	2500	8500
	(i 80)	22	43		
	(i 100)	24	54		
ECY 105	(i 50)	25	56	2500	7300
	(i 80)	34	74		
	(i 100)	40	82		
ECY 107	(i 50)	39	98	2000	6500
	(i 80)	63	137		
	(i 100)	67	157		

(1) At output speed $n_2=2,000$ rpm

Output bearing capacity

Size	Max. permissible bending moment [Nm]	Max. permissible axial load [N]
ECY 103	105	1590
ECY 105	159	1590
ECY 107	219	3000

Available ratios

Size	Ratios
ECY 103	50 / 80 / 100
ECY 105	
ECY 107	

The above technical data is intended to enable a rough pre-selection only.



IB P1

Features and advantages

The smallest gearbox for precision applications

High torque density unit with angular ball bearings for high load capacity.
Adaptable servo motor connection.

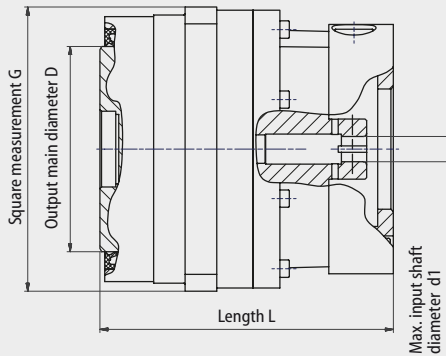
Important features

- Mechanical backlash 3 arcmin or 15 arcmin
- 3 sizes
- Simple motor mounting with clamp ring
- Ratios from 3.7 to 81
- Acceleration torques from 35 Nm to 380 Nm
- Input speed up to 6,000 rpm
- Axial/radial load up to 4,500 N / 9,400 N
- Maintenance-free

Servo planetary gearbox type IB P1

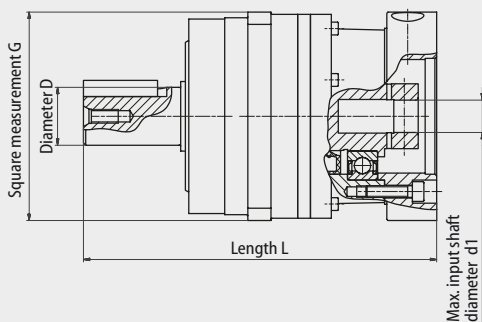
Main dimensions and weight

TYPE ANFX F



Size	Max. length L (1) (2) [mm]	Square measurement G [mm]	Output main diameter D [mm]	Max. input shaft diameter d1 [mm]	Maximum weight value (2) [kg]
P110	82 / 124.5	□ 60	42	16	1.26 / 1.36
P120	145.5 / 165	□ 90	65	24	3 / 3.5
P130	179.5 / 150	□ 120	90	35	6.6 / 7.5

TYPE ANFX N/W



Size	Max. length L (1) (2) [mm]	Square measurement G [mm]	Diameter D [mm]	Max. input shaft diameter d1 [mm]	Maximum weight value (2) [kg]
P110	107.5 / 125.5	□ 60	16	16	1.3 / 1.4
P120	189.5 / 203	□ 90	25	24	3.3 / 3.7
P130	220 / 236	□ 120	40	35	6.8 / 7.9

- (1) Depending on motor flange
(2) Single-stage / double-stage

Main data torque & speed

Size	Max. nominal output torque (1) [Nm]	Max. acceleration/brake torque [Nm]	Max. output speed [rpm]
P110	22.5	45	6000
P120	69	190	6000
P130	153	380	5000

- (1) Depending on the ratio
Please contact us for details

Output bearing capacity

Size	Max. bending moment [Nm]	Max. radial/axial load (2) [N]
P110	70	1050 / 2160
P120	300	2900 / 4800
P130	620	4500 / 9400

- (2) At input speed $n_1=1,000$ rpm

Ratios

Size	Ratios
P110	3.7 / 5 / 9 / 11 / 15 / 21 / 33 / 45 / 81
P120	
P130	

The above technical data is intended to enable a rough pre-selection only.



IB P2

Features and advantages

The precise input for high torque requirements

Compact gearbox with angular ball bearings for high loads.
Helical gears for best possible torque transmission, lowest vibrations and noise.

Important features

- Mechanical backlash 3 arcmin
- 2 sizes
- Simple motor mounting with clamp ring
- Ratios from 4 to 100
- Acceleration torques from 900 Nm to 3,000 Nm
- Input speed up to 6,000 rpm
- Axial/radial load up to 8,100 N / 18,385 N
- Maintenance-free

Servo planetary gearbox type IB P2

Main dimensions and weight

TYPE ANFX F

Size	Max. length L (1) (2) [mm]	Square measurement G [mm]	Output main diameter D [mm]	Max. input shaft diameter d1 (2) [mm]	Weight Approximate value (2) [kg]
P240	237 / 238	□ 154	110	55	20 / 21
P250	258 / 337	□ 212	155	55	36 / 49

(1) Depending on motor flange
(2) Single-stage / double-stage

Alternative version with cylindrical output shaft available.

Main data torque & speed

Size	Max. nominal output torque (1) (2) [Nm]	Max. acceleration/brake torque [Nm]	Max. Input speed [rpm]
P240	500	900	6000
P250	1500	3000	5000

- (1) Depending on reduction ratio
Please contact us for details
(2) At input speed $n_1=1,500$ rpm

Output bearing capacity

Size	Max. bending moment [Nm]	Max. radial/axial load [N]
P240	1177	10245 / 5200
P250	2000	18385 / 8100

Available ratios

Size	Ratios
P240	4 / 5 / 7 / 10 /
P250	16 / 20 / 25 / 28 / 35 / 40 / 50 / 70 / 100

The above technical data is intended to enable a rough pre-selection only.



IB PK

Features and advantages

Right-angled version of the smallest gearbox for precision applications

Angular ball bearing on output for high load.

Comprehensive range of servo motor connections available.

Important features

- Mechanical backlash 6 arcmin or 15 arcmin
- 3 sizes with double or triple reduction system
- Simple motor mounting with clamp ring
- Ratios from 6 to 243
- Acceleration torques from 35 Nm to 380 Nm
- Input speed up to 6,000 rpm
- Axial/radial load up to 9,400 N / 4,500 N
- Maintenance-free

Servo planetary gearbox type IB PK

Main dimensions and weight

TYPE ANFX F

Size	Max. length L (1) (2) [mm]	Length l1 (1) [mm]	Square measurement G [mm]	Output main diameter D [mm]	Max. input shaft diameter d1 (2) [mm]	Weight (2) [kg]
PK110	100 / 111	96	□ 60	42	16	2 / 2.2
PK120	141.5 / 147	115	□ 90	65	24	5.8 / 6
PK130	176.5 / 183.5	146	□ 120	90	35	12.2 / 12.3

(1) Depending on motor flange
(2) Single-stage / double-stage

TYPE ANFX N/W

Size	Max. length L (1) (2) [mm]	Length l1 (1) [mm]	Square measurement G [mm]	Diameter D [mm]	Max. input shaft diameter d1 (2) [mm]	Max. weight (2) [kg]
PK110	130 / 141	96	□ 60	16	16	2.2 / 2.2
PK120	185.5 / 191	115	□ 90	25	24	5.8 / 6.2
PK130	262.5 / 269.5	146	□ 120	40	35	12.3 / 13.1

(1) Depending on motor flange
(2) Single-stage / double-stage

Main data torque & speed

Size	Max. nominal output torque (1) (2) [Nm]	Max. acceleration/brake torque (1) [Nm]	Max. Input speed [rpm]
PK110	22.5	45	6000
PK120	69	190	6000
PK130	153	380	5000

- (1) Depending on the ratio
Please contact us for details
(2) At input speed n1=1,000 rpm

Output bearing capacity

Size	Max. bending moment [Nm]	Max. Radial/axial load [N]
PK110	70	1050 / 3140
PK120	300	2900 / 4800
PK130	620	4500 / 9400

Available ratios

Size	Ratios
PK110	5.55 / 7.5 / 11.1 / 15 / 22.5 /
PK120	27 / 33 / 45 / 49.5 / 63 /
PK130	67.5 / 99 / 121.5 / 135 / 243



Servo planetary gearbox EPG

EPG

Features and advantages

Cost effective planetary gearbox

Coaxial design with output shaft and key.
Adaptable servo motor connection.

Important features

- Mechanical backlash of 8 arcmin to 12 arcmin
- 5 sizes
- Simple motor mounting with clamp ring
- Ratios from 3 to 100
- Acceleration torques from 12 Nm to 500 Nm
- Input speed up to 6,000 rpm
- Torsional stiffness up to 50 Nm/arcmin
- Axial/radial load up to 6,000 N / 7,500 N
- Maintenance-free

Main dimensions and weight

Size	Length		Diameter	Diameter	Max. input shaft diameter d1 [mm]	Weight (2) [kg]
	L (1) [mm]	(2) [mm]	G [mm]	D [mm]		
05	105.5	122.5	55	12	11	0.8 / 1
07	143	165	75	16	19	1.8 / 2.2
09	181	211	95	22	24	4 / 4.9
12	238	278	125	32	38	9 / 11
15	289.5	331.5	160	40	38	19 / 24

(1) Depending on motor flange
(2) Single-stage / double-stage

Main data torque & speed

Size	Max. nominal output torque (1) [Nm]	Max. acceleration/brake torque (1) [Nm]	Max. mean input speed (1) [rpm]	Max. input speed [rpm]
05	11	25	5500	6000
07	35	76	4500	6000
09	98	200	4200	5500
12	230	480	3200	4800
15	360	500	3900	4500

(1) Depending on the ratio
Please contact us for details

Output bearing capacity

Size	Max. radial load [N]	Max. axial load [N]
05	650	700
07	1450	1550
09	2400	1900
12	4600	4000
15	7500	6000

Available ratios

Size	Ratios
05	3 / 4 / 5 / 7 / 9 / 10 /
07	12 / 15 / 16 / 20 / 25 / 28 / 30 / 35 / 40 / 45 /
09	50 / 63 / 70 / 81 / 90 / 100
12	
15	3 / 4 / 5 / 7 / 10 / 12 / 16 / 20 / 28 / 35 / 50 / 70 / 100

The above technical data is intended to enable a rough pre-selection only.



VPG

Features and advantages

Compact solution for applications with low backlash

Coaxial design with output shaft or flange.

Completely new construction with spur gear and high bearing capacity.

Adaptable servo motor connection.

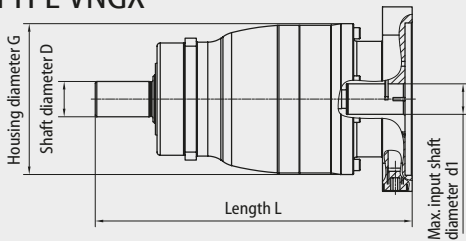
Important features

- Mechanical backlash of 1 arcmin to 8 arcmin
- 7 sizes
- Simple motor mounting with clamp ring
- Ratios from 3 to 100
- Acceleration torques from 32 Nm to 4,500 Nm
- Input speed up to 6,000 rpm
- Torsional stiffness up to 180 Nm/arcmin
- Axial/radial load up to 30,000 N / 50,000 N
- Maintenance-free
- Alternative versions available with cylindrical shaft, shaft with key and with gearing in accordance with DIN 5480

Servo planetary gearbox VPG

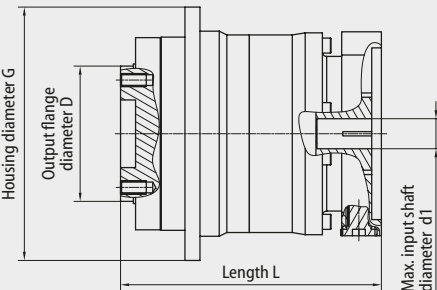
Main dimensions and weight

TYPE VNGX



Size	Length L (1) (2) [mm]	Diameter G (3) [mm]	Diameter D (2) [mm]	Max. diameter d1 (2) [mm]	Weight (2) [kg]
045	146 / 165.5	72	16	19 / 14	2.1 / 2.7
080	178.5 / 188.5	94	22	24 / 14	3.1 / 4.4
250	250.8 / 239.8	120	32	38 / 19	7.3 / 8.3
450	329.5 / 314	154 / 152	40	48 / 32	17.3 / 19
1250	367 / 383	210	55	55 / 38	44 / 43
2600	410 / 486	227	75	55 / 55	58 / 73
4500	450.5 / 534.5	255	85	60 / 55	80 / 94

TYPE VNFx



Size	Length L (1) (2) [mm]	Diameter G (3) [mm]	Diameter D [mm]	Max. diameter d1 (2) [mm]	Weight (2) [kg]
045	89 / 108.5	86	40	19 / 14	1.5 / 2.1
080	111.5 / 121.5	118	63	24 / 14	3.9 / 4.3
250	155 / 144	145	80	38 / 19	6.6 / 7
450	199 / 183.5	179	100	48 / 32	13.5 / 14.4
1250	232.5 / 248.5	247	160	55 / 38	39 / 38
2600	248.5 / 324.5	300	180	55 / 55	60 / 75
4500	267.5 / 342.5	330	200	60 / 55	80 / 93

(1) Please contact us regarding different diameters

(2) Single-stage / double-stage

(3) Spline or involute gear available on request

Main data torque & speed

Size	Max. nominal output torque (1) [Nm]	Max. acceleration/brake torque (1) [Nm]	Max. mean input speed (1) [rpm]	Max. input speed [rpm]
045	29	44	5500	6000
080	83	120	4500	6000
250	200	330	4200	4500
450	390	660	3900	4000
1250	1000	1650	3400	4000
2600	2200	3000	3000	3500
4500	3250	4500	2800	3500

(1) Depending on the ratio
Please contact us for details

Output bearing capacity

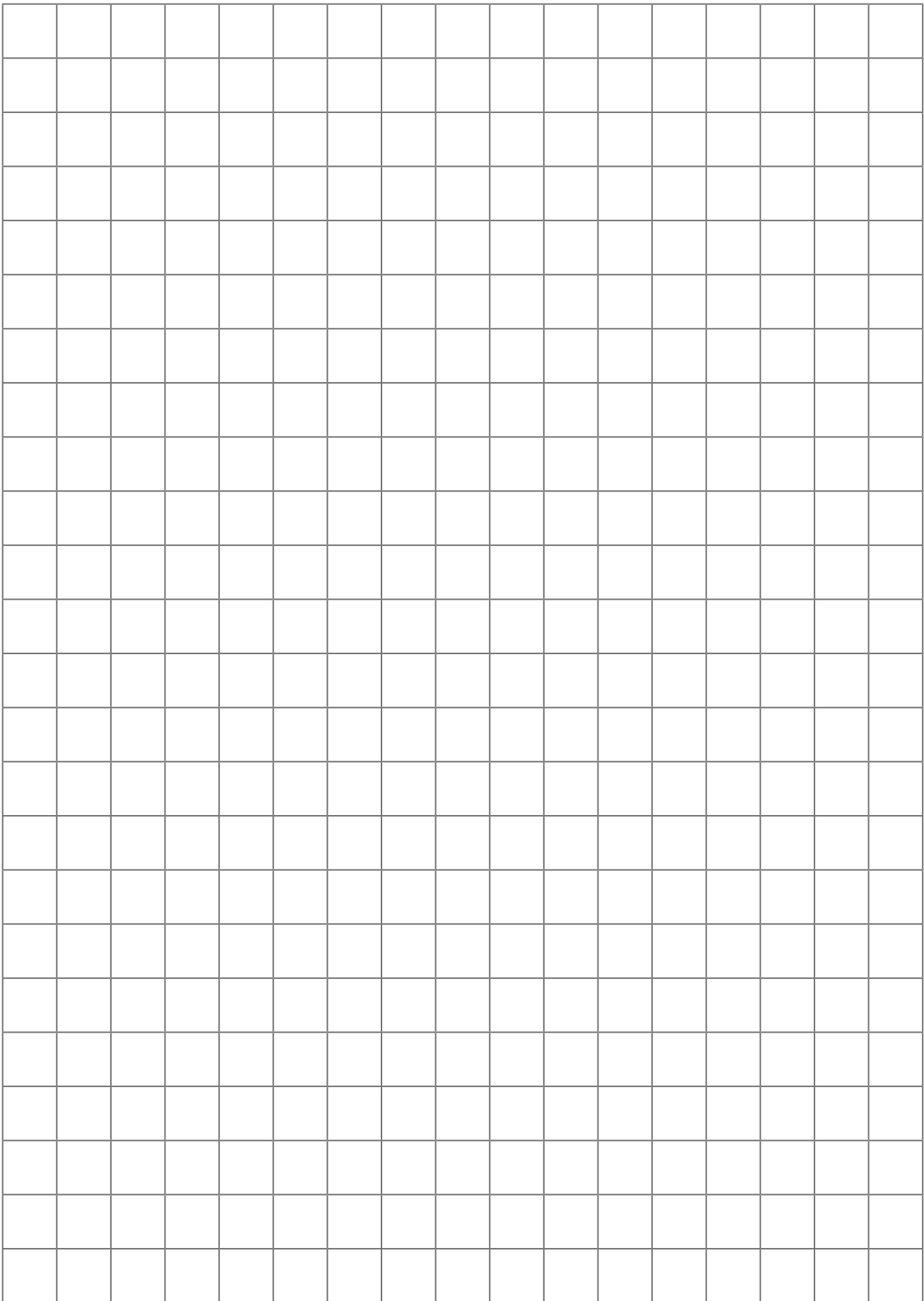
Size	TYPE VNGX		TYPE VNFx	
	Max. Bending moment [Nm]	Max. radial/axial load [N]	Max. Bending moment [Nm]	Max. axial load [N]
045	147	2700 / 2400	115	2200
080	261	4000 / 3350	250	3600
250	547	6300 / 5650	463	4200
450	1111	9450 / 9870	1337	8000
1250	2008	15500 / 14200	3530	10000
2600	3171	21000 / 30000	5758	33000
4500	5205	30000 / 33000	8739	50000

Available ratios

Size	Ratios
045 – 1250	3* / 4 / 5 / 7 / 10 / 12* / 16 / 20 / 25 / 28 / 35 / 40 / 50 / 70 / 100
2600 & 4500	3* / 4* / 5 / 7 / 10 / 12* / 16* / 20 / 25 / 28* / 35 / 40* / 50 / 70 / 100

(*) only available with type VNGX

Note



Configure online

We can support you as early as the design phase of new applications, and work out the gearbox in detail.

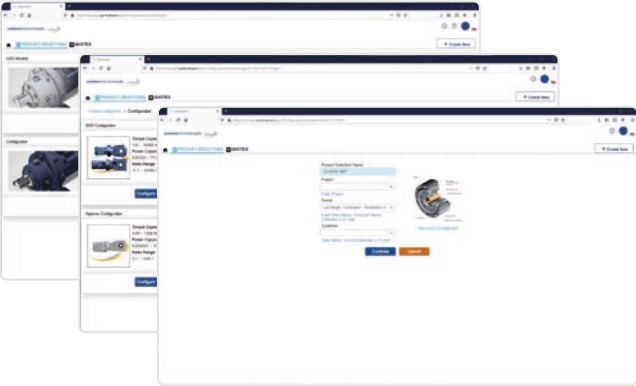
Starting from the application's basic data, our design team can use our "Servorun" sizing software to check the gear selection and suitability of the motor for the application. In addition to gearbox specifications, our database also contains an extensive selection of the most commonly used motors.

Our online Configurator is available for free use to help you select our products yourself. The Configurator can be found on our homepage under Tools.

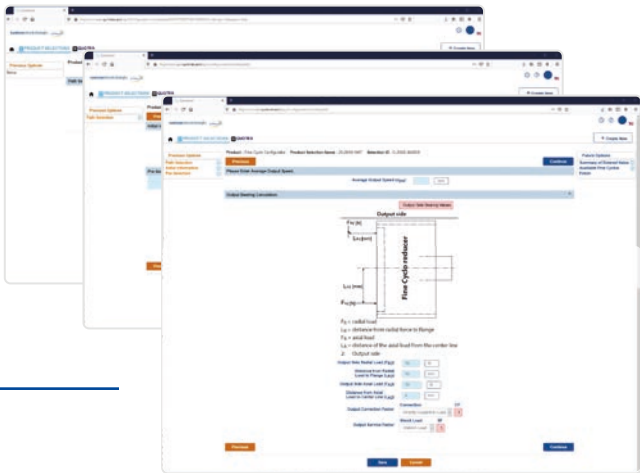
<https://emeia.sumitomodrive.com/en-de/configurator>



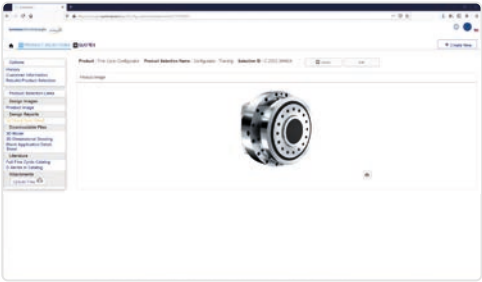
PRODUCT SELECTION



PRODUCT CONFIGURATION



RESULT



Customised is our Standard

Design and manufacture at Sumitomo offer all facilities for making made-to-measure solutions from our gearboxes.

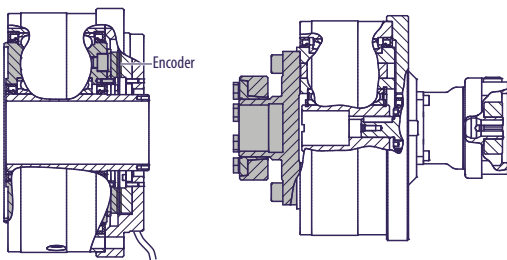
Customisations can include non-standardised motor adaptations, combinations of different gearboxes, integration of brakes and encoder systems, realisation of specific machine interfaces, performance fine-tuning and much more.

Especially at the start of the project, we offer joint technical planning of the application, to which we can contribute our many years of experience in a wide variety of different cases.

Our highly qualified sales staff and engineers are ready to work with you on site to find the most competitive solution for your application.

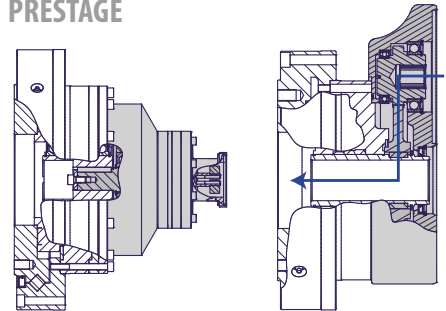
Our customer service department is readily available when a gearbox needs maintenance, repair or modification, thanks in no small part to a global network of manufacturing plants and sales offices.

OUTPUT



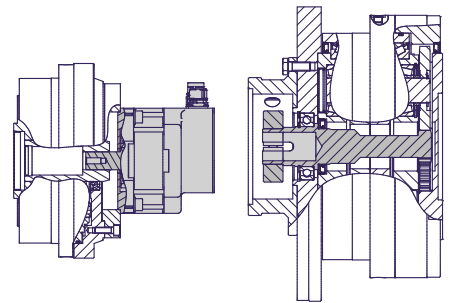
Your ideal output geometries are as varied as your applications. We adapt to your needs!

PRESTAGE



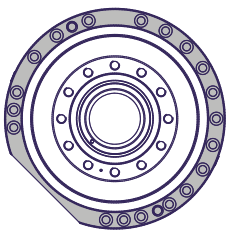
Do you need extreme reductions?
The input speed just can't be high enough?
We offer the right prestage, "Made by Sumitomo" of course!

MOTOR ADAPTATION



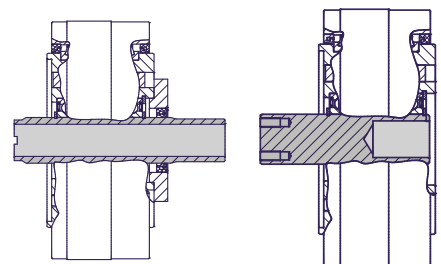
Do you have a favourite brand of motor?
We have the gearbox that can be directly connected.
Whether you need one gearbox or one thousand.

HOUSING



Are there any space restrictions?
Does your machine need a unique input?
We've got the solution.

INPUT SHAFT



Whatever the ideal input shaft looks like for you
- we will make it for you!

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