



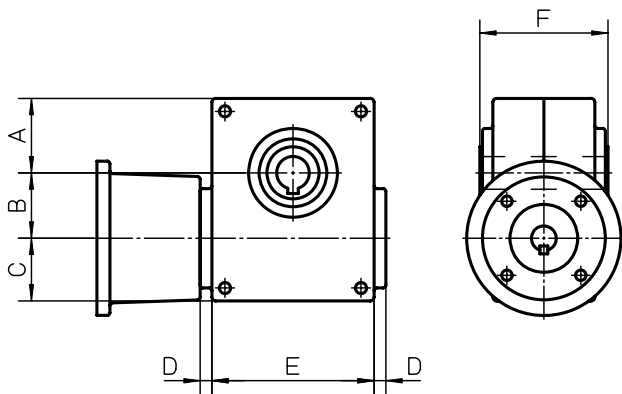
Accessories

Gears and Transmission Kits

BS40 Worm Gears, dimensions

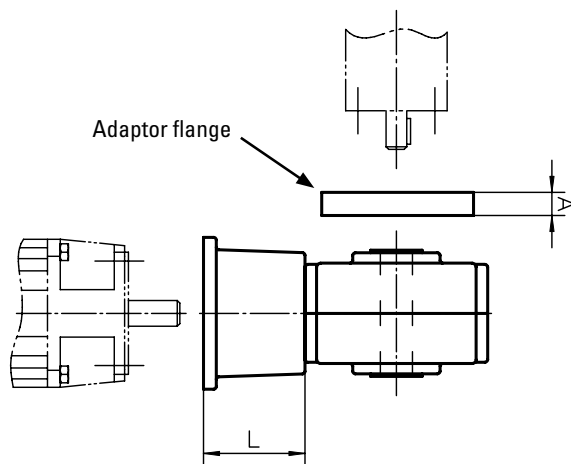
Gear	A	B	C	D	E	F
BS40	54	40	46	10	100	92

The worm gear includes the gear, the bell house and a matching coupling.



BS40 Worm Gears, compatibility table

Unit	BS40	IEC71B14	IEC80B14	IEC90B14	A	L
Z2 (MGZ2K32)	•	•			17	58
Z2 (MGZ2K32)	•		•		17	68



To be able to install the gear to the unit an adaptor flange must be used between the gear and the unit. In addition, the adaptor flange must be ordered separately.

Accessories

Gears and Transmission Kits

BS40 Worm Gears, ordering key

	1	2	3
Example	BS40	-10	-71
1. Type and size of worm gear BS40 = BS40 worm gear	2. Gear ratio -3 = 3:1 -5,5 = 5,5:1 -7,5 = 7,5:1 -10 = 10:1 -15 = 15:1 -20 = 20:1 -24 = 24:1 -30 = 30:1 -40 = 40:1 -48 = 48:1 -60 = 60:1		6. Motor size no code = without bell house and coupling -71 = IEC71B14 -80 = IEC80B14

Adaptor flanges for BS40 Worm Gears, part numbers

Unit	p/n
Z2 (MGZ2K32)	D606 250

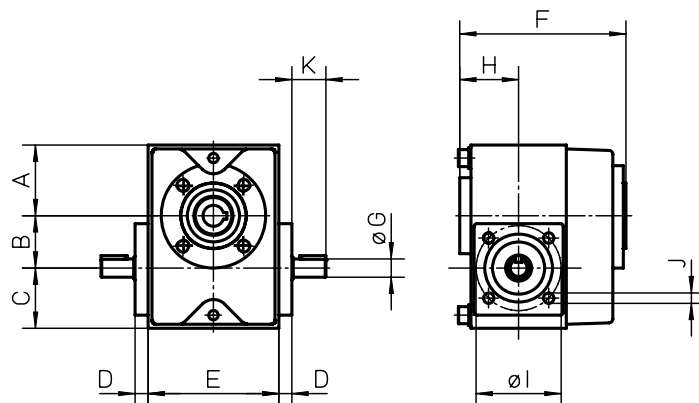


Accessories

Gears and Transmission Kits

TBS40 Worm Gears, dimensions

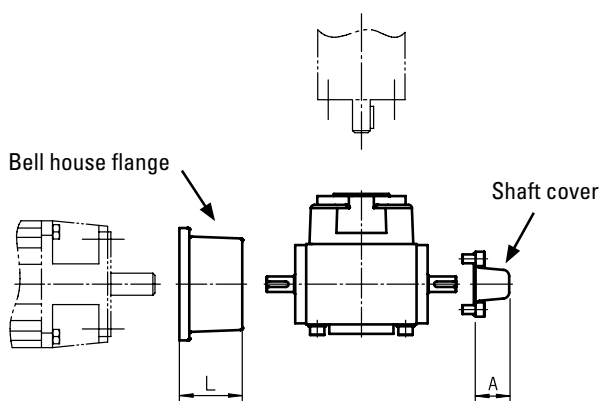
Gear	A	B	C	D	E	F	øG	H	øI	J	K
TBS40	54	40	46	10	100	125	14j6	45	65	M8 (4x)	25



The worm gear is installed directly to the unit and requires no intermediate coupling between the two.

TBS40 Worm Gears, compatibility table

Unit	TBS40	IEC71B14	IEC80B14	A	L
Z2 (MGZ2K25)	•	•		32	58
Z2 (MGZ2K25)	•		•	32	68
Z3 (MGZ3K25)	•	•		32	58
Z3 (MGZ3K25)	•		•	32	68
M75	•	•		32	58
M75	•		•	32	68
M100	•	•		32	58
M100	•		•	32	68



To be able to install the gear to the motor a bell house flange must be used between the gear and the motor. The bell house flange, which includes a matching coupling, is ordered separately. A shaft cover can be ordered to cover the second primary shaft on the gear in case it is not being used.

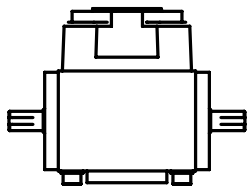
Accessories

Gears and Transmission Kits

TBS40 Worm Gears, ordering key

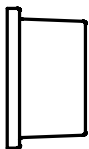
	1	2	3
Example	TBS40	-3	-216

1. Type and size of worm gear TBS40 = TBS40 worm gear	2. Gear ratio -3 = 3:1 -5,5 = 5,5:1 -7,5 = 7,5:1 -10 = 10:1 -15 = 15:1 -20 = 20:1 -24 = 24:1 -30 = 30:1 -40 = 40:1 -48 = 48:1 -60 = 60:1	3. Fixed code -216
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Bell house flanges for TBS40 Worm Gears, part numbers

Motor size	p/n
IEC71B14	D701 011
IEC80B14	D701 015



Shaft Cover for TBS40 Worm Gears, part numbers

Gear type	p/n
TBS40	D701 020





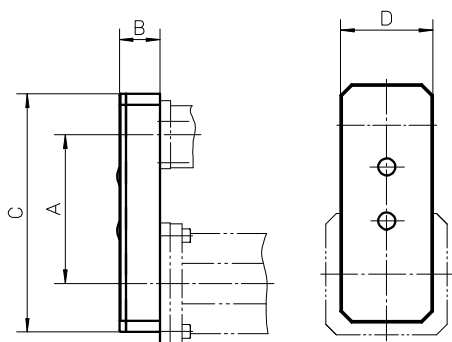
Accessories

Gears and Transmission Kits

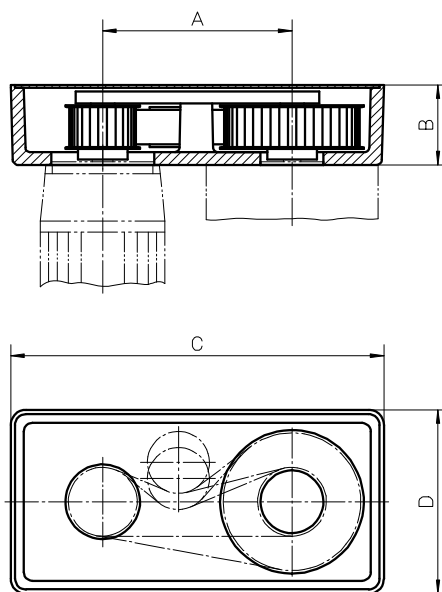
RT Belt Gears, dimensions

Gear	A	B	C	D
RT40	110	30	176	68
RT60	175	74	345	170
RT80	175	74	345	170

RT40



RT60/80



RT Belt Gears, data

Gear	i	Ω_{max} [rpm]	M_{max} [Nm]	M_{idle} [Nm]	η	J [kgm ²]	Weight [kg]
RT40	1:1	3000	1,75	0,3	0,80	0,000025	0,62
RT60	1:1	3000	15	0,7	0,85	0,000438	5,6
RT60	2:1	3000	15	0,7	0,85	0,001011	7,1
RT80	1:1	3000	30	0,7	0,85	0,000465	5,5
RT80	2:1	3000	30	0,7	0,85	0,001038	7

i = gear ratio

M_{idle} = idle torque

Ω_{max} = max. input speed

η = efficiency factor

M_{max} = max. input torque

J = inertia

Accessories

Gears and Transmission Kits

RT Belt Gears, compatibility table

Gear	WH40 / WM40	WM60 / WV60 / WZ60 / MLSM60D	WH80 / WM80 / WV80 / WM120 / WV120 / MLSM60D / MLSM80D
RT40	•		
RT60		•	
RT80			•

RT Belt Gears, ordering key

	1	2	3	4	5
Example	RT80	-2	-•••	-P-N	-05

1. Type and size of belt gear

RT40 = RT belt gear size 40

RT60 = RT belt gear size 60

RT80 = RT belt gear size 80

2. Gear ratio

-1 = 1:1

-2 = 2:1

3. Motor code

- xxy = alphanumeric motor code (e.g. -AK5).

There are several motors that fit each gear and the list of suitable motors is continuously being updated. Please contact customer support for help to see which motors are currently are on the list or if your preferred motor can be added to the list.

4. Type of mounting

-P-M = gear supplied mounted to the unit

-P-N = gear supplied unmounted

5. Compatible unit type

-01 = WH40

-02 = WH50

-03 = WH80

-04 = WH120

-05 = WM40

-06 = WM60

-07 = WM80

-08 = WM120

-09 = WV60

-10 = WV80

-11 = WV120

-12 = WHZ50

-13 = WHZ80

-14 = WZ60

-15 = WZ80

-16 = MLSH60Z

-18 = MLSM80Z

-19 = MLSM60D

-20 = MLSM80D

RT belt gears can only be used on units without a RediMount flange.



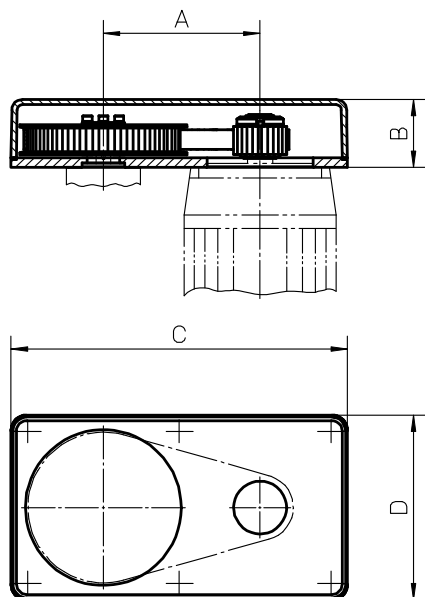
Accessories

Gears and Transmission Kits

BGM Belt Gears, dimensions

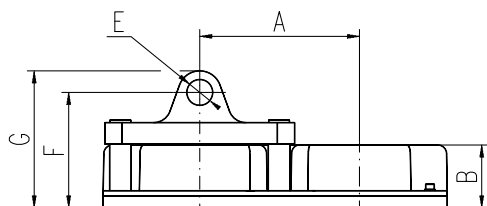
Gear	A	B	C	D	∅E	F	G	H	I	J
BGM09	118,7	52	255	140	20 H9	95	115	60	–	–
BGM41	155,2	70	305	165	25 H9	122	147	70	–	–
BGM81	200	73	399	224	30 H9	134	159	90	90H14	170

BGM09/41/81 - WITHOUT CLEVIS OPTION

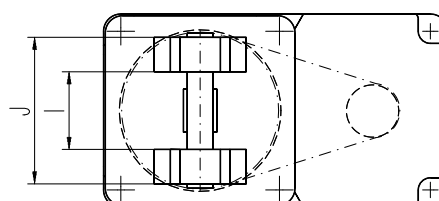
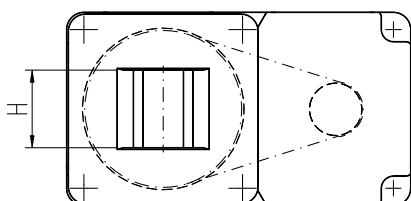
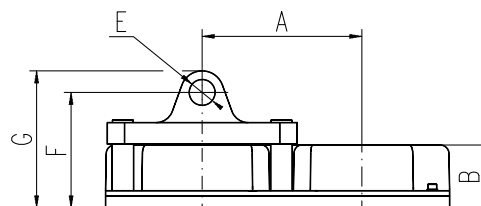


BGM belt gears can only be used on units without a RediMount flange. The belt gear comes in parts and is assembled to the unit and motor by the customer.

BGM09/41/81 - WITH CLEVIS OPTION TYPE S



BGM81 - WITH CLEVIS OPTION TYPE R



Accessories

Gears and Transmission Kits

BGM Belt Gears, data

Gear	i	n_{max} [rpm]	M_{max} [Nm]	η	J [kgm ²]	Weight [kg]
BGM09	1,04:1	4000	4,1	0,85	0,000102	2
BGM09	1,85:1	4000	4,1	0,85	0,000112	2,1
BGM09	2,85:1	4000	4,1	0,85	0,000213	2,5
BGM41	1:1	4000	22,0	0,85	0,000438	3,4
BGM41	2:1	4000	15,8	0,85	0,000342	3,7
BGM41	3:1	4000	16,7	0,85	0,000583	4,6
BGM81	1:1	4000	29,0	0,85	0,000836	12,1
BGM81	2,25:1	4000	32,3	0,85	0,001051	12,9
BGM81	3,13:1	4000	30,3	0,85	0,001439	14

i = gear ratio

η = efficiency factor

n_{max} = max. input speed

J = inertia

M_{max} = max. input torque

BGM Belt Gears, compatibility table

Gear	WM/V/Z60	WM/V/80	WM/V/120	MLSM80D	WB60	M50	M55	M75	M100	Z2
BGM09	•				•	•	•	•		
BGM41	•	•						•	•	•
BGM81			•	•						

BGM Belt Gears, ordering keys

See next page for ordering keys.

Accessories

Gears and Transmission Kits

BGM 09 Belt Gears, ordering key

	1	2	3	4	5	6	7	8
Example	BGM09	-2	-CC	063	P	050	X	+XX
1. Type and size of belt gear BGM09 = BGM belt gear size 09	4. Motor size¹ 063 = IEC 63 B14 071 = IEC 71 B14 S80 = servo motor size 80 AK4 = servo motor type AKM 4			7. Clevis option X = no clevis option S = clevis option type S				
2. Gear ratio -1 = 1,04:1 -2 = 1,85:1 -3 = 2,85:1	5. Type of mounting P = standard			8. Protection +XX = standard +S1 = wash down protection				
3. Type of couplings -CC = conical couplings	6. Compatible unit type W06 = WM60, WV60, WZ60 WB6 = WB60 050 = M50 060 = M55 070 = M75			¹ This is only a selection of all motors that fit this gear. Please contact customer support to see if your preferred motor fits the gear.				

BGM 41 Belt Gears, ordering key

	1	2	3	4	5	6	7	8
Example	BGM41	-1	-CC	071	P	070	X	+S1
1. Type and size of belt gear BGM41 = BGM belt gear size 41	4. Motor size¹ 071 = IEC 71 B14 080 = IEC 80 B14 S80 = servo motor size 80 S95 = servo motor size 95 AK5 = servo motor type AKM 5			7. Clevis option X = no clevis option S = clevis option type S				
2. Gear ratio -1 = 1:1 -2 = 2:1 -3 = 3:1	5. Type of mounting P = standard			8. Protection +XX = standard +S1 = wash down protection				
3. Type of couplings -CC = conical couplings	6. Compatible unit type W06 = WM60, WV60, WZ60 W08 = WM80, WV80 070 = M75 10B = M100 (MF/G10B) 10K = M100 (MF/G10K/C/D)			¹ This is only a selection of all motors that fit this gear. Please contact customer support to see if your preferred motor fits the gear.				

Accessories

Gears and Transmission Kits

BGM 81 Belt Gears, ordering key

	1	2	3	4	5	6	7	8
Example	BGM81	-1	-CC	090	P	M8D	X	+XX
1. Type and size of belt gear BGM81 = BGM belt gear size 81			4. Motor size¹ 090 = IEC 90 B14 100 = IEC 100/121 B14 A20 = servo motor size A200 AK6 = servo motor type AKM 6			7. Clevis option X = no clevis option S = clevis option type S R = clevis option type R		
2. Gear ratio -1 = 1:1 -2 = 2,25:1 -3 = 3,13:1			5. Type of mounting P = standard			8. Protection +XX = standard +S1 = wash down protection		
3. Type of couplings -CC = conical couplings			6. Compatible unit type W12 = WM120, WV120 M8D = MLSM80D			¹ This is only a selection of all motors that fit this gear. Please contact customer support to see if your preferred motor fits the gear.		



Accessories

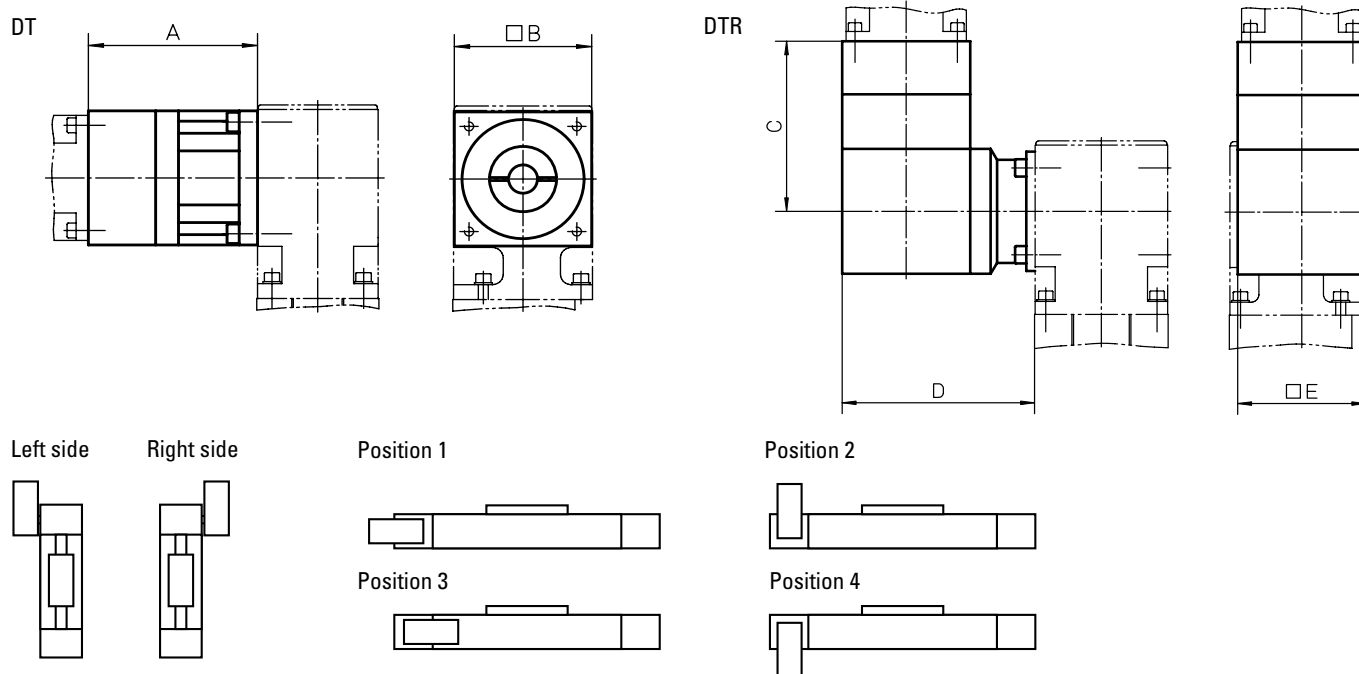
Gears and Transmission Kits

Micron DT, DTR Planetary Gears, compatibility and dimensions

Unit	Gear	i	A	B	C	D	E	Weight [kg]	Backlash [arc min]	Efficiency [%]
WH50	DT60-SS	3:1 - 10:1	89,7	60	-	-	-	1	8	90
	DT60-DS	15:1 - 100:1	106,9	60	-	-	-	1,2	9	85
	DTR60-SS	5:1 - 50:1	-	-	110,2	104,1	60	2,5	9	90
	DTR60-DS	60:1 - 500:1	-	-	127,3	104,1	60	2,7	9	85
WH80	DT90-SS	3:1 - 10:1	110,9	90	-	-	-	3	9	90
	DT90-DS	15:1 - 100:1	133,5	90	-	-	-	3,7	9	85
	DTR90-SS	5:1 - 50:1	-	-	145,4	138,2	90	4,8	9	90
	DTR90-DS	60:1 - 500:1	-	-	168,0	138,2	90	5,5	9	85
WH120	DT115-SS	3:1 - 10:1	136,4	110	-	-	-	12,7	8	90
	DT115-DS	15:1 - 100:1	167,4	110	-	-	-	16,2	9	85
	DTR115-SS	5:1 - 50:1	-	-	185,7	173,5	115	11	8	90
	DTR115-DS	60:1 - 500:1	-	-	216,7	173,5	115	12	9	85
WM60Z	DT60-SS	3:1 - 10:1	89,7	60	-	-	-	1	8	90
	DT60-DS	15:1 - 100:1	106,9	60	-	-	-	1,2	9	85
	DTR60-SS	5:1 - 50:1	-	-	110,2	104,1	60	2,5	9	90
	DTR60-DS	60:1 - 500:1	-	-	127,3	104,1	60	2,7	9	85
WM80Z	DT90-SS	3:1 - 10:1	110,9	90	-	-	-	3	9	90
	DT90-DS	15:1 - 100:1	133,5	90	-	-	-	3,7	9	85
	DTR90-SS	5:1 - 50:1	-	-	145,4	138,2	90	4,8	9	90
	DTR90-DS	60:1 - 500:1	-	-	168,0	138,2	90	5,5	9	85

Micron gears can only be used on units without a RediMount flange. Micron DT and DTR planetary gears comes mounted on the unit from factory.

i = gear ratio



Accessories

Gears and Transmission Kits

Micron DT, DTR Planetary Gears, how to order

When ordering a DT or DTR planetary gear you need to state the size and type of gear, which side of the unit the gear shall be installed, the gear ratio and which motor that you wish to use. For DTR you also must state the preferred mounting position of the gear. With this information we can check if your choice of motor is possible or not and give you the correct ordering code for the gear.

Micron DT, ordering data

1. Size of planetary gear

DT60
DT90
DT115

2. Type of gear

-SS
-DS

3. Mounting side of the unit

Left
Right

4. Gear ratio

3:1 (only for -SS models)
5:1 (only for -SS models)
10:1 (only for -SS models)
15:1 (only for -DS models)
25:1 (only for -DS models)
30:1 (only for -DS models)
50:1 (only for -DS models)
100:1 (only for -DS models)

5. Motor

Specify your choice of motor.

Micron DTR, ordering data

1. Type and size of planetary gear

DTR60
DTR90
DTR115

2. Type of gear

-SS
-DS

3. Mounting position of the gear

Position 1
Position 2
Position 3
Position 4

4. Mounting side of the unit

Left
Right

5. Gear ratio

5:1 (only for -SS models)
6:1 (only for -SS models)
9:1 (only for -SS models)
10:1 (only for -SS models)
12:1 (only for -SS models)
15:1 (only for -SS models)
20:1 (only for -SS models)
25:1 (only for -SS models)
30:1 (only for -SS models)
40:1 (only for -SS models)
50:1 (only for -SS models)
60:1 (only for -DS models)
75:1 (only for -DS models)
90:1 (only for -DS models)
100:1 (only for -DS models)
120:1 (only for -DS models)
125:1 (only for -DS models)
150:1 (only for -DS models)
200:1 (only for -DS models)
250:1 (only for -DS models)
300:1 (only for -DS models)
400:1 (only for -DS models)
500:1 (only for -DS models)

6. Motor

Specify your choice of motor.

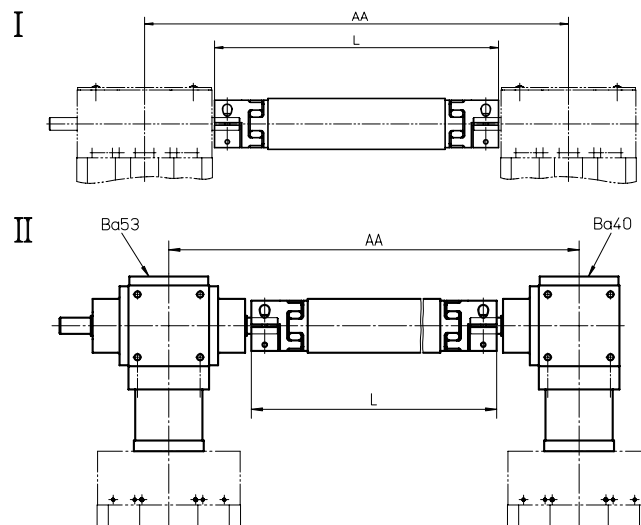
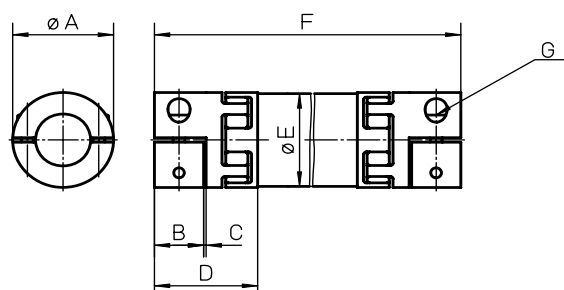


Accessories

Gears and Transmission Kits

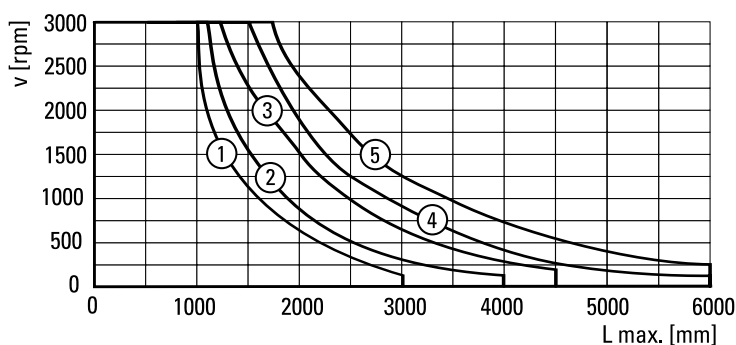
VWZ Intermediate Shafts, dimensions

Shaft	øA	B	C	D	øE	F min.	G
VWZ-30	32	15	1,5	34	30	99	M4
VWZ-40	42	17	1,5	46	40	133	M5
VWZ-60	56	30	2	63	60	177	M6
VWZ-60V	67	35	2	73	60	205	M8
VWZ-80	82	40	2	84	80	249	M10
VWZ-100	102	50	2	97	100	283	M12



The VWZ intermediate shafts can be installed in two ways. Either directly to belt driven units (I) or to screw driven units using KRG bevel gears (II) of type VL50, VL100 or VL200. However, belt driven units with a RediMount flange can not be combined with VWZ shafts while screw driven units can, but in which case the unit must be ordered with the RediMount ID code that fits the bevel gear in question. The intermediate shaft includes tube and couplings.

Critical Speed of Shaft



- 1: VWZ-30
- 2: VWZ-40
- 3: VWZ-60 and VWZ-60V
- 4: VWZ-80
- 5: VWZ-100

VWZ Intermediate Shafts, data

Shaft	Mmax [Nm]	Gs [kg/m]	Gc [kg]	Js [kgm ² /m]	Jc [kgm ²]	Ms [Nm]
VWZ-30	4,8	0,58	0,14	0,00011	0,00001	4
VWZ-40	6,4	0,76	0,36	0,00020	0,00008	8
VWZ-60	22,7	0,97	0,94	0,00080	0,00024	15
VWZ-60V	60,6	0,97	1,42	0,00080	0,00046	35
VWZ-80	122,7	2,00	2,98	0,00300	0,00240	70
VWZ-100	169,7	2,47	4,62	0,00580	0,00600	120

Mmax = max. shaft torque

Gs = weight of shaft

Gc = weight of coupling

Js = inertia of shaft

Jc = inertia of coupling

Ms = tightening torque

Accessories

Gears and Transmission Kits

VWZ Intermediate Shafts, compatibility table

Unit	I	II	VWZ-30	VWZ-40	VWZ-60	VWZ-60V	VWZ-80	VWZ-100	AA [mm]
WH40	•			•					AA = L + 56
WH50 / WHZ50	•				•				AA = L + 54
WM60Z	•				•				AA = L + 64
WH80 / WHZ80	•					•			AA = L + 84
WH120	•							•	AA = L + 124
WM80Z	•					•			AA = L + 84
MLSH60Z	•					•			AA = L + 164
WB40 / WM40		VL50	•						AA = L + 170
WB60		VL100			•				AA = L + 184
WM60 / WV60 / WZ60		VL100			•				AA = L + 184
WM80 / WV80 / MLSM60D		VL100				•			AA = L + 176
MLSM80Z	•						•		AA = L + 244
WM120 / WV120 / MLSM60D / MLSM80D		VL200					•		AA = L + 244

AA = C/C distance between units

L = total length of shaft and coupling assembly

VWZ Intermediate Shafts, ordering key

	1	2	3
Example	VWZ-060	-02	-0700

1. Intermediate shaft size

VWZ-030 = VWZ-30
 VWZ-040 = VWZ-40
 VWZ-060 = VWZ-60
 VWZ-06V = VWZ-60V
 VWZ-080 = VWZ-80
 VWZ-100 = VWZ-100

2. Type of unit and type of mounting

-01 = WH40 for type I mounting
 -02 = WH50 / WHZ50 for type I mounting
 -03 = WM80Z for type I mounting
 -04 = WH80 / WHZ80 for type I mounting
 -05 = WH120 for type I mounting
 -06 = WM60Z for type I mounting
 -07 = MLSH60Z for type I mounting
 -08 = WB40 / WM40 for type II mounting on VL50 gears
 -09 = WB60 for type II mounting on VL100 gears
 -10 = WM60 / WV60 / WZ60 for type II mounting on VL100 gears
 -11 = WM80 / WV80 / MLSM60D for type II mounting on VL100 gears
 -12 = MLSM80Z for type I mounting
 -13 = WM120 / WV120 / MLSM60D / MLSM80D for type II mounting on VL200 gears

3. C/C distance between units (AA)

- xxxx = distance in mm



Accessories

Gears and Transmission Kits

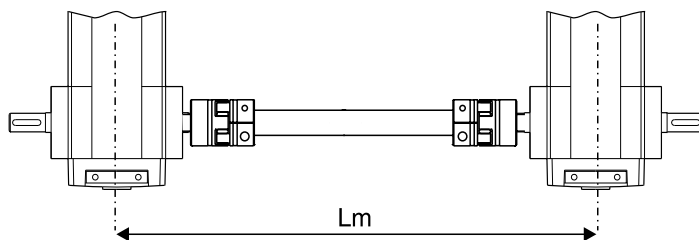
DSP Intermediate Shafts, data

Shaft	Weight of shaft [kg]	Max. speed [rpm]	Shaft diameter [mm]
DSP-05B	$0,3 + 1,3 \times Lm$	1500	20
DSP-06B	$0,3 + 1,3 \times Lm$	1500	20
DSP-07B	$0,6 + 2,6 \times Lm$	1500	30
DSP-10B	$0,6 + 2,6 \times Lm$	1500	30
DSB--ZB	$0,6 + 2,6 \times Lm$	1500	30
DSP-TBS	$0,6 + 2,6 \times Lm$	1500	30

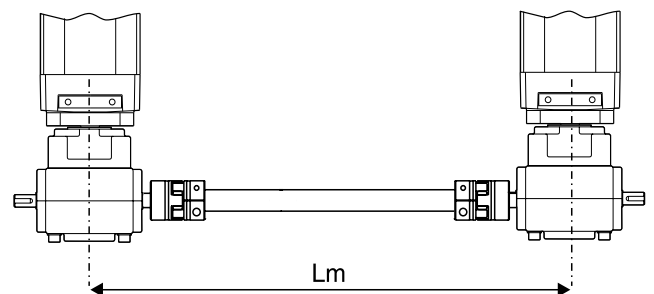
Lm = C/C distance between units in cm

The DSP intermediate shaft can be installed directly between two belt driven units or between two screw driven units using a TBS worm gear. The DSP shaft can not be used on units with a Redi-Mount flange. Couplings and tube are included in the shipment. Support bearings may need to be installed if the critical speed of the shaft is exceeded. See diagram. Support bearings can be ordered from your local bearing supplier.

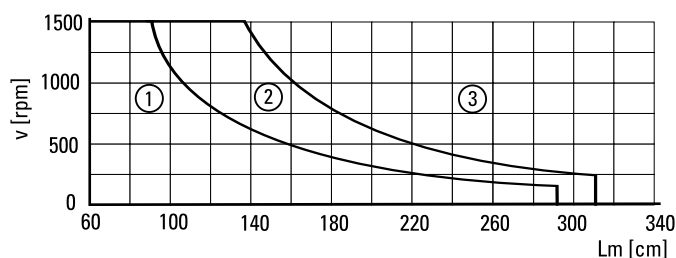
DSP-05B/06B/07B/10B/-ZB



DSP-TBS



Critical Speed of Shaft



- 1: No support bearing required
- 2: Support bearing required for DSP-05B and DSP-06B
- 3: Support bearing always required

Accessories

Gears and Transmission Kits

DSP Intermediate Shafts, compatibility table

Unit	Drive type	DSP-05B	DSP-06B	DSP-07B	DSP-10B	DSP--ZB	DSP-TBS
M50	belt	•					
M55	belt		•				
M75	belt			•			
M100	belt				•		
ZB	belt					•	
M55	screw						•
M75	screw						•
M100	screw						•

DSP Intermediate Shafts, ordering key

	1	2
Example	DSP-06B	-305

1. Intermediate shaft size and type

DSP-05B = for belt driven M50 units
 DSP-06B = for belt driven M55 units
 DSP-07B = for belt driven M75 units
 DSP-10B = for belt driven M100 units
 DSP--ZB = for belt driven ZB units
 DSP-TBS = for screw driven M55, M75 or M100 units with TBS worm gear

2. C/C distance between units in cm (Lm)

- xxx = length in cm



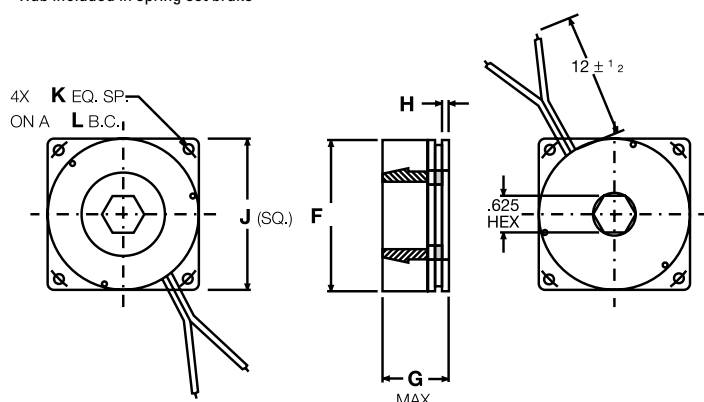
Accessories

Gears and Transmission Kits

Spring Set Brake

Unit type	p/n	Nema size	Static torque [lbf-in]	Supply voltage [VDC]	Dimensions [in]							Brake hub p/n ¹	Brake adaptor p/n
					F	G	H	J	K	L	HEX		
2DB08	TEB23A	23	NEMA 23	24	2.25	1.10	0.11	2.25	0.22	2.625	5/8	HEXHUB23A	MB08-23
2DB12	TEB23B	23	NEMA 23	24	2.25	1.10	0.11	2.25	0.22	2.625	5/8	HEXHUB23B	none required
2HB10, 2RB12	TEB23D	23	NEMA 23	24	2.25	1.10	0.11	2.25	0.22	2.625	5/8	HEXHUB23D	none required
2RB16	TEB23E	23	NEMA 23	24	2.25	1.10	0.11	2.25	0.22	2.625	5/8	HEXHUB23E	none required
2DB16	TEB34A	34	NEMA 34	24	2.25	1.10	0.11	3.25	0.22	3.875	5/8	HEXHUB34A	none required
2HB20	TEB34C	34	NEMA 34	24	2.25	1.31	0.11	3.25	0.22	3.875	7/8	HEXHUB34A	none required

¹ Hub included in spring set brake



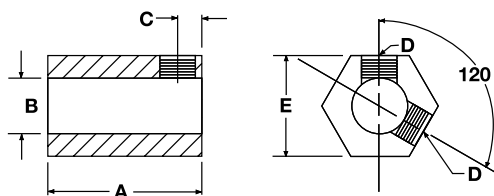
Mounts to support end of 2HB, 2RB, and 2DB units. The brake engages upon loss of power and provides resistance to back drive rotation of ball screws due to gravitational forces when power is interrupted to the brake unit. They are pre-burnished for maximum torque capacity and come with standard NEMA 23, 34 or 42 mounting patterns for easy field retrofit. Compact size minimizes change to the overall system envelope. The 2HB, 2RB, and 2DB ordering keys can be configured with the brake as part of the assembly. See ordering keys or www.LinearMotioneering.com for details. The part numbers listed here are for the brake parts as separate items.

Spring Set Brake Hubs

Brake type	p/n	Unit type	Set screw torque [in-lb] ¹	Dimensions [in (mm)]				
				A	B	C	D	E
TEB23A	HEXHUB23A	2DB08	36	1.53	3/16	0.15	#10/32	5/8
TEB23B	HEXHUB23B	2DB12	36	1.31	1/4	0.26	#10/32	5/8
TEB23D	HEXHUB23D	2HB10, 2RB12	36	(20)	(8)	(5)	M4	5/8
TEB23E	HEXHUB23E	2RB16	36	(20)	(20)	(5)	M4	5/8
TEB34A	HEXHUB34A	2DB16	36	1.67	3/8	0.44	#10/32	5/8
TEB34C	HEXHUB34A	2HB20	36	(32)	14	(6)	M5	7/8

¹ It is suggested a serviceable thread locking compound be used.

HEXHUB •••



SPLHUB42A

