

# 08

## ACCESSORIES





**“IF SOMEONE COPIED ME  
TODAY, TOMORROW HE  
WOULD BE OBSOLETE  
BECAUSE I WOULD  
HAVE ALREADY  
REINVENTED MYSELF.”**

**ANONYMOUS**



**DISTRIBUIDOR  
AUTORIZADO**

MEX (55) 53 63 23 31  
QRO (442) 1 95 72 60

MTY (81) 83 54 10 18  
ventas@industrialmagza.com



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AUTORIZADO**

MEX (55) 53 63 23 31  
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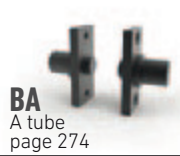
# ACCESSORIES

## ÍNDICE

### Box fastening



### Exterior Tube Fastening Accessory



### Nut fastening



### Support



### Screw / stem



### Transmission



### Protection



### Detection

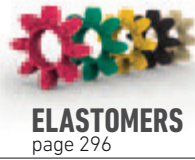


### Drive



### Greasing

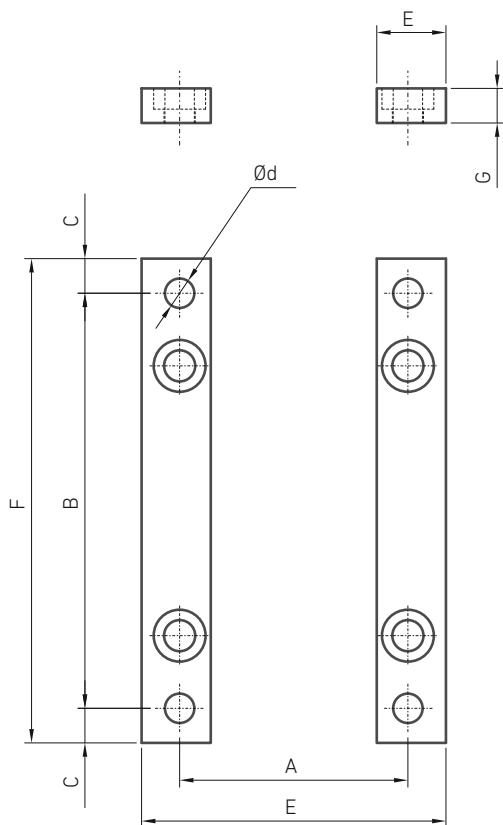




# M SERIES BOX FASTENING ACCESSORIES

## LCM RULES

	Applicable to	
<b>LCM-1</b>	M1	FM1 / AM1
<b>LCM-2</b>	M2	FM2 / AM2
<b>LCM-3</b>	M3	FM3 / AM3
<b>LCM-4</b>	M4	FM4 / AM4
<b>LCM-5</b>	M5	FM5
<b>LCM-6</b>	J1	FJ1
<b>LCM-7</b>	J3	FJ3
<b>LCM-8</b>	J4	
<b>LCM-9</b>	J5	



### Assembly position

Position 1



Position 2



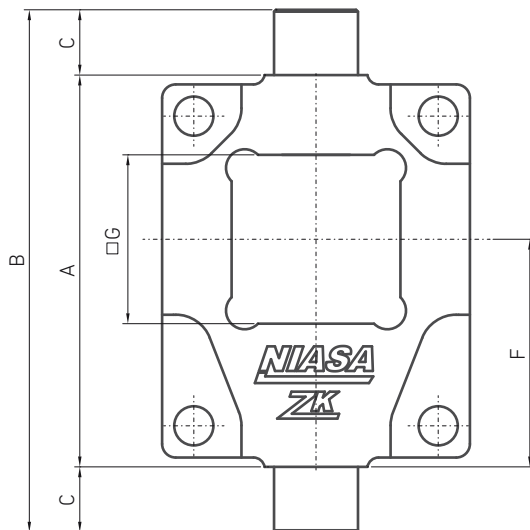
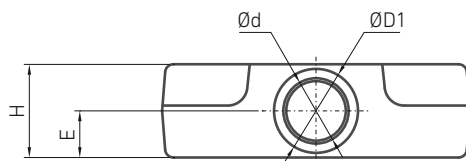
	A	B	C	Ød	D	E	F	G	Weight (kg)
<b>LCM-1</b>	52	100	10	8.5	72	20	120	10	0.3
<b>LCM-2</b>	63	120	10	8.5	85	20	140	10	0.4
<b>LCM-3</b>	81	150	10	11	105	24	170	12	0.8
<b>LCM-4</b>	115	204	13	13.5	145	30	230	16	1.7
<b>LCM-5</b>	131	236	17	22	171	40	270	25	3.9
<b>LCM-6</b>	155	250	20	26	205	50	290	30	5.8
<b>LCM-7</b>	170	290	25	32	230	65	340	40	10
<b>LCM-8</b>	190	350	30	39	270	80	410	50	20.8
<b>LCM-9</b>	230	430	35	45	330	100	500	60	34.4

- ... Material: C45.
- ... Standard treatment: Bronze-plated.
- ... Special treatment: Zinc-plated (15-20  $\mu\text{m}$ ) + heat treated paint (60-80  $\mu\text{m}$ ).

# M SERIES BOX FASTENING ACCESSORIES

## FLANGE WITH ZKM BOLTS

	Applicable to	
<b>ZKM-1</b>	M1	FM1 / AM1
<b>ZKM-2</b>	M2	FM2 / AM2
<b>ZKM-3</b>	M3	FM3 / AM3
<b>ZKM-4</b>	M4	FM4 / AM4
<b>ZKM-5</b>	M5	FM5
<b>ZKM-6</b>	J1	FJ1
<b>ZKM-7</b>	J3	FJ3
<b>ZKM-8</b>	J4	
<b>ZKM-9</b>	J5	



	A	B	C	Ød f8	ØD1	E	F	□G	H	Weight (kg)
<b>ZKM-1</b>	84	118	15	15	22	10	51	35.5	20	0.6
<b>ZKM-2</b>	106	146	20	20	28	12.5	63	40.5	25	1.2
<b>ZKM-3</b>	138	188	25	25	35	15	80	60.5	30	2.1
<b>ZKM-4</b>	190	270	40	35	45	20	107	80.5	40	5.5
<b>ZKM-5</b>	210	290	40	45	55	25	122	90.5	50	8.7
<b>ZKM-6</b>	220	320	50	50	70	30	125	101	60	12.8
<b>ZKM-7</b>	250	370	60	70	90	40	145	111	80	23.2
<b>ZKM-8</b>	300	440	70	80	100	45	170	131	90	36.7
<b>ZKM-9</b>	370	530	80	90	110	50	215	151	100	61.8

... Material: S355.

... Standard treatment: Bronze-plated.

... Special treatment: Zinc-plated (15-20 µm) + heat treated paint (60-80 µm).

NOTE: On screw jacks with W configuration the flange can be welded to the square tube.



### Assembly position

Position 1



Position 2

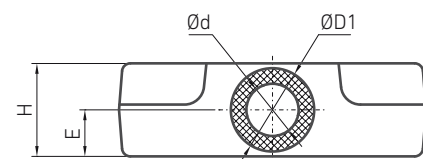




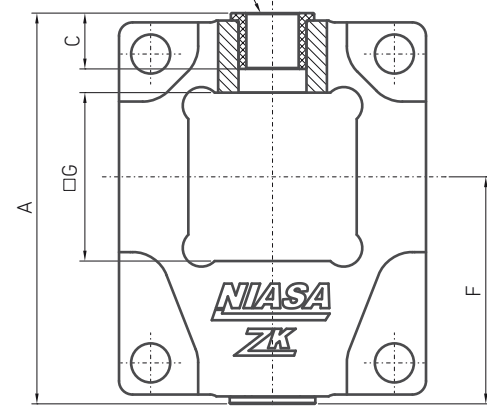
# M SERIES BOX FASTENING ACCESSORIES

## FLANGE WITH ZKH BEARINGS

	Applicable to	
<b>ZKH-1</b>	M1	FM1 / AM1
<b>ZKH-2</b>	M2	FM2 / AM2
<b>ZKH-3</b>	M3	FM3 / AM3
<b>ZKH-4</b>	M4	FM4 / AM4
<b>ZKH-5</b>	M5	FM5
<b>ZKH-6</b>	J1	FJ1
<b>ZKH-7</b>	J3	FJ3
<b>ZKH-8</b>		J4
<b>ZKH-9</b>		J5



Self-lubricating bearing



	A	C	Ød	ØD1	E	F	□G	H	Weight (kg)
<b>ZKH-1</b>	84	15	12 E10	18	10	51	35.5	20	0.5
<b>ZKH-2</b>	106	20	15 E10	23	12.5	63	40.5	25	1
<b>ZKH-3</b>	138	25	20 G8	28	15	80	60.5	30	1.75
<b>ZKH-4</b>	190	25	25 G8	35	20	107	80.5	40	4.7
<b>ZKH-5</b>	210	30	30 G8	46	25	122	90.5	50	7.5
<b>ZKH-6</b>	220	32	40 G8	52	30	125	101	60	10.6
<b>ZKH-7</b>	250	50	50 G8	62	40	145	111	80	17.8
<b>ZKH-8</b>	300	50	60 G8	80	45	170	131	90	27.7
<b>ZKH-9</b>	370	60	70 G8	85	50	215	151	100	48.5

- ... Bearing material for sizes ZKH1 and ZKH2: High-performance polymer.
- ... Bearing material for sizes ZKH3 to ZKH9: Bronze.
- ... Material of the body: S355.
- ... Standard treatment: Bronze-plated.
- ... Special treatment: Zinc-plated (15-20 µm) + heat treated paint (60-80 µm).

NOTE: On screw jacks with W configuration the flange can be welded to the square tube.



### Assembly position

Position 1



Position 2



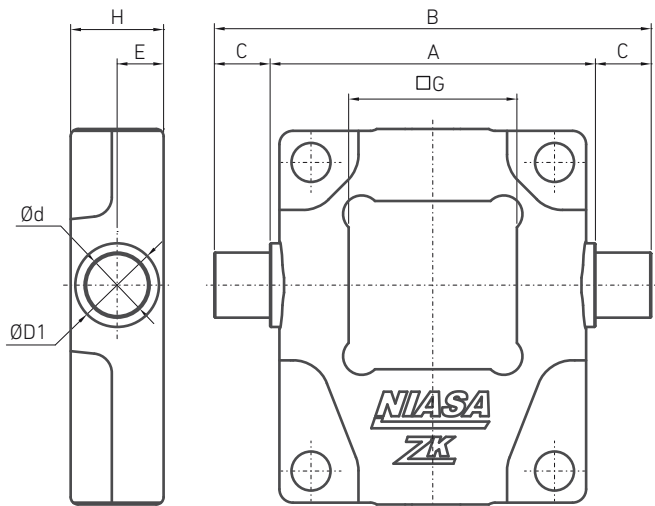
## M SERIES BOX FASTENING ACCESSORIES

# FLANGE WITH ZKV 90° BOLTS



Applicable to

<b>ZKV-1</b>	M1	FM1 / AM1
<b>ZKV-2</b>	M2	FM2 / AM2
<b>ZKV-3</b>	M3	FM3 / AM3
<b>ZKV-4</b>	M4	FM4 / AM4
<b>ZKV-5</b>	M5	FM5
<b>ZKV-6</b>	J1	FJ1
<b>ZKV-7</b>	J3	FJ3
<b>ZKV-8</b>		J4
<b>ZKV-9</b>		J5



### Assembly position

Position 1



Position 2



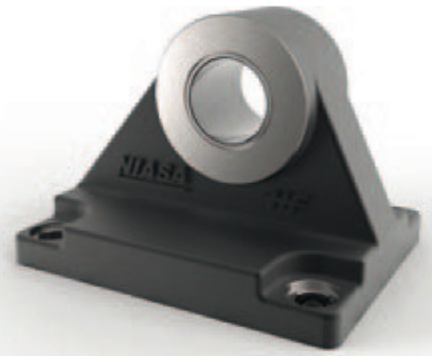
	A	B	C	Ød f8	ØD1	E	□G	H	Weight (kg)
<b>ZKV-1</b>	76	110	17	15	19	10	35.5	20	0.6
<b>ZKV-2</b>	91	125	17	15	22	12.5	40.5	25	1.2
<b>ZKV-3</b>	113	153	20	20	28	15	60.5	30	2.1
<b>ZKV-4</b>	155	205	25	25	35	20	80.5	40	5.5
<b>ZKV-5</b>	175	255	40	35	45	25	90.5	50	8.7
<b>ZKV-6</b>	205	285	40	45	55	30	101	60	13
<b>ZKV-7</b>	230	330	50	50	70	40	111	80	21.5
<b>ZKV-8</b>	260	380	60	70	90	45	131	90	35.5
<b>ZKV-9</b>	310	450	70	80	100	50	151	100	61

- ... Material: S355.
- ... Standard treatment: Bronze-plated.
- ... Special treatment: Zinc-plated (15-20 µm) + heat treated paint (60-80 µm).

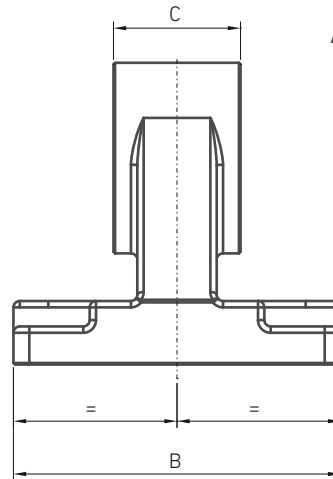
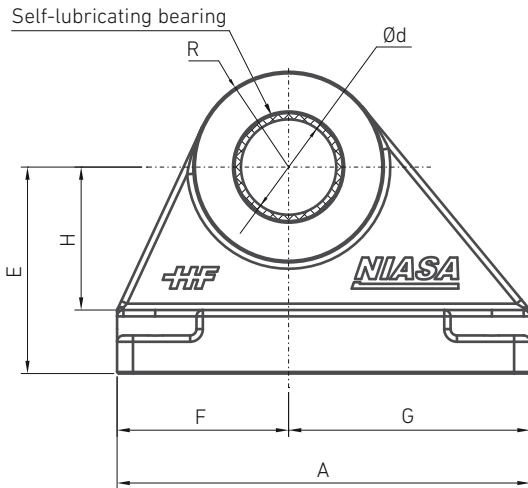
NOTE: On screw jacks with W configuration the flange can be welded to the square tube.

# M SERIES BOX FASTENING ACCESSORIES

## HFM CLEVIS ROD



	Applicable to	
<b>HFM-1</b>	M1-R	FM1 / AM1
<b>HFM-2</b>	M2-R	FM2 / AM2
<b>HFM-3</b>	M3-R	FM3 / AM3
<b>HFM-4</b>	M4-R	FM4 / AM4
<b>HFM-5</b>	M5-R	FM5
<b>HFM-6</b>	J1-R	FJ1
<b>HFM-7</b>	J3-R	FJ3



Assembly position



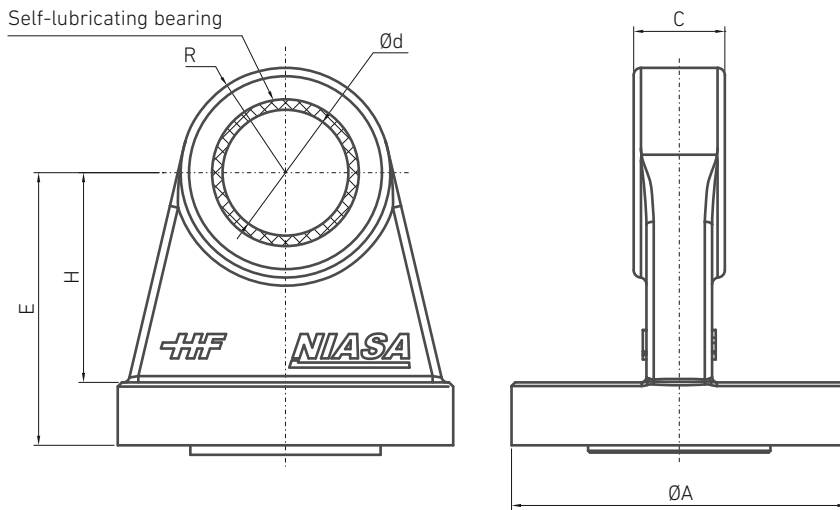
	A	B	C b12	Ød		E	F	G	H	R	Weight (kg)
<b>HFM-1</b>	80	70	25	15	+0,124 +0,04	40	31	49	25	18	0.5
<b>HFM-2</b>	100	83	30	20	+0,124 +0,04	50	40	60	35	22.5	0.7
<b>HFM-3</b>	130	103	40	30	+0,085 -0,010	65	54	76	45	30	3.8
<b>HFM-4</b>	180	143	50	45	+0,105 -0,010	85	78	102	60	45	9
<b>HFM-5</b>	200	163	50	50	+0,110 -0,010	120	83	117	85	60	16.5
<b>HFM-6</b>	210	193	60	60	+0,110 -0,010	150	90	120	100	65	25
<b>HFM-7</b>	240	218	70	70	+0,105 -0,010	170	100	140	110	75	37

- ... Standard material HFM-1 and HFM-2: Aluminum L-2560 EN AC 43000-T6.
- ... Standard material HFM-3 to HFM-7: S355 steel.
- ... Standard treatment HFM-1 and HFM-2: Anodised.
- ... Standard treatment HFM-3 to HFM-7: Bronze-plated.
- ... Special treatment HFM-3 to HFM-7: Zinc-plated (15-20 µm) + heat treated paint (60-80 µm).

# HM SERIES BOX FASTENING ACCESSORIES

## HFR CLEVIS ROD

	Applicable to
<b>HFR-1</b>	FHM1 / AHM1
<b>HFR-2</b>	FHM2 / AHM2
<b>HFR-3</b>	FHM3 / AHM3
<b>HFR-4</b>	FHM4 / AHM4
<b>HFR-5</b>	FHM5
<b>HFR-6</b>	FHJ1
<b>HFR-7</b>	FHJ3



### Assembly position

Position 1



Position 2



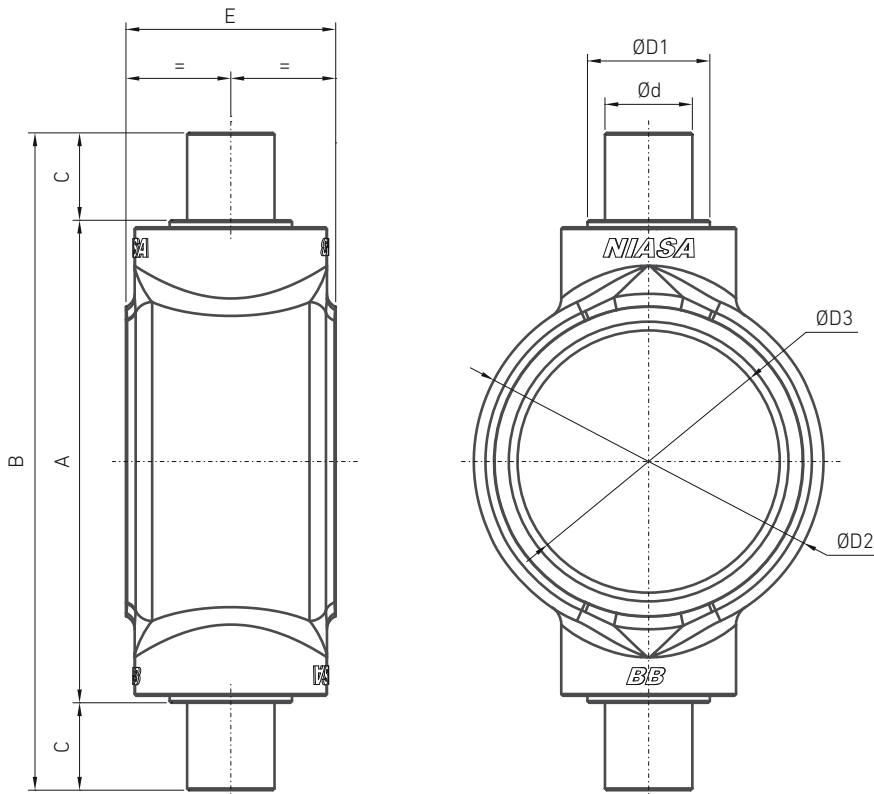
	Ø A	C b12	Ød		E	H	R	Weight (kg)
<b>HFR-1</b>	58	25	15	+0,124 +0,04	40	28	18	0.35
<b>HFR-2</b>	80	30	20	+0,124 +0,04	50	35	22.5	0.5
<b>HFR-3</b>	92	40	30	+0,085 -0,010	65	47	30	1.6
<b>HFR-4</b>	125	50	45	+0,105 -0,010	85	60	42.5	5.3
<b>HFR-5</b>	145	50	50	+0,110 -0,010	120	85	50	9
<b>HFR-6</b>	155	60	60	+0,110 -0,010	150	110	65	13
<b>HFR-7</b>	200	70	70	+0,105 -0,010	160	110	75	24.5

- ... Standard material HFR-1 and HFR-2: Aluminum L-2560 EN AC 43000-T6.
- ... Standard material HFR-3 to HFR-7: S355 steel.
- ... Standard treatment HFR-1 and HFR-2: Anodised.
- ... Standard treatment HFR-3 to HFR-7: Bronze-plated.
- ... Special treatment HFR-3 to HFR-7: Zinc-plated (15-20 µm) + heat treated paint (60-80 µm).

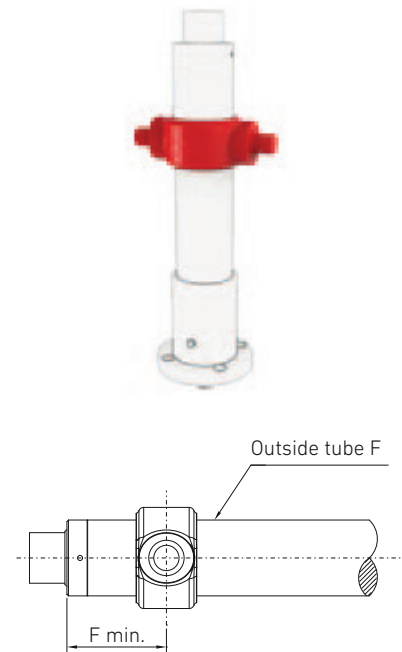
# EXTERIOR TUBE F FASTENING ACCESSORIES

## FLANGE WITH BB BOLTS

	Applicable to		
<b>BB-1</b>	F16	FM1	FHM1
<b>BB-2</b>	F20	FM2	FHM2
<b>BB-3</b>	F30	FM3	FHM3
<b>BB-4</b>	F40	FM4	FHM4
<b>BB-5</b>	F45	FM5	FHM5
<b>BB-6</b>	F50	FJ1	FHJ1
<b>BB-7</b>	FJ3		FHJ3



Assembly position



	A	B	C	Ød f8	ØD1	ØD2	ØD3	E	F	Weight (kg)
<b>BB-1</b>	82	106	15	15	20	55	40	30	55	0.3
<b>BB-2</b>	116	146	20	20	25	78	55	42	85	0.91
<b>BB-3</b>	138	188	25	25	40	100	75	60	110	1.92
<b>BB-4</b>	160	220	40	35	45	118	90	80	115	3.6
<b>BB-5</b>	200	280	40	45	55	150	115	95	140	4
<b>BB-6</b>	260	350	50	50	60	195	150	108	150	12
<b>BB-7</b>	335	455	60	70	80	265	200	138	190	26.5

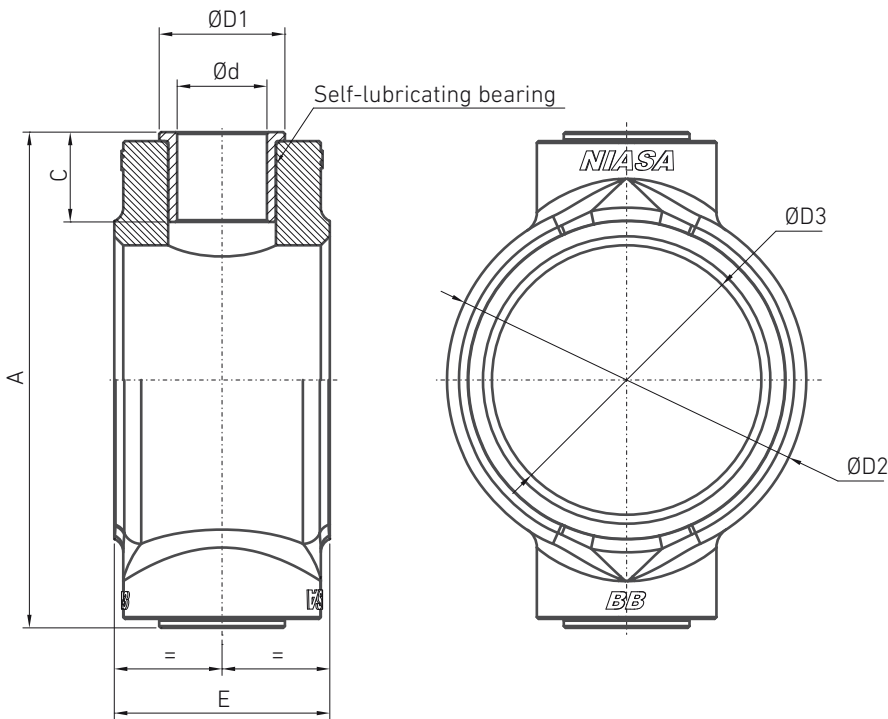
... Standard material: S355.

... Special treatment: Zinc-plated (15-20 µm) + heat treated paint (60-80 µm).

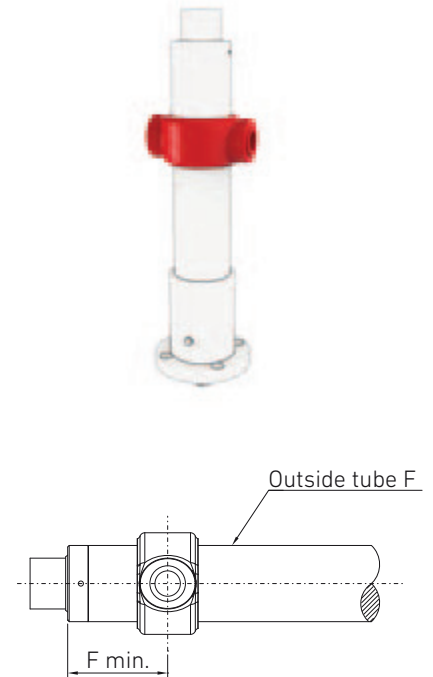
# EXTERIOR TUBE F FASTENING ACCESSORIES FLANGE WITH BH BEARINGS



	Applicable to		
<b>BH-1</b>	F16	FM1	FHM1
<b>BH-2</b>	F20	FM2	FHM2
<b>BH-3</b>	F30	FM3	FHM3
<b>BH-4</b>	F40	FM4	FHM4
<b>BH-5</b>	F45	FM5	FHM5
<b>BH-6</b>	F50	FJ1	FHJ1
<b>BH-7</b>	FJ3		FHJ3



Assembly position



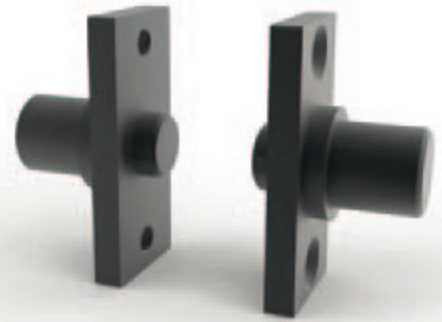
	A	C	Ø d	D1	D2	D3	E	F	Weight (kg)
<b>BH-1</b>	82	15	15 E10	20	55	40	30	55	0.4
<b>BH-2</b>	116	20	20 E10	25	78	55	42	85	1.2
<b>BH-3</b>	138	25	25 G8	40	100	75	60	110	2.4
<b>BH-4</b>	160	30	35 G8	45	118	90	80	115	4.6
<b>BH-5</b>	200	40	45 G8	55	150	115	95	140	8
<b>BH-6</b>	260	50	50 G8	60	195	150	108	150	15.2
<b>BH-7</b>	335	60	70 G8	80	240	170	138	185	34.8

... Standard material: S355.

... Special treatment: Zinc-plated (15-20 µm) + heat treated paint (60-80 µm).

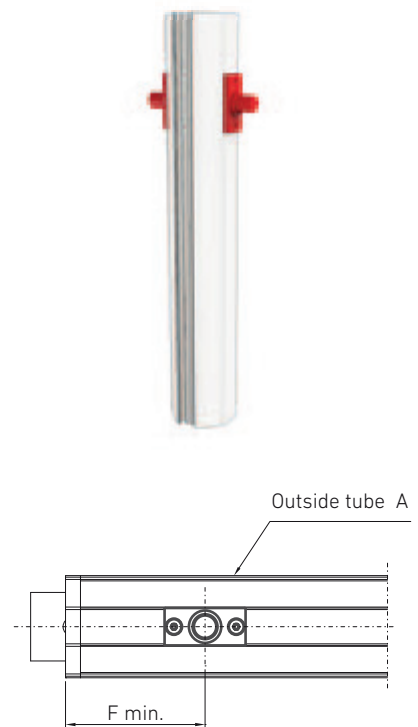
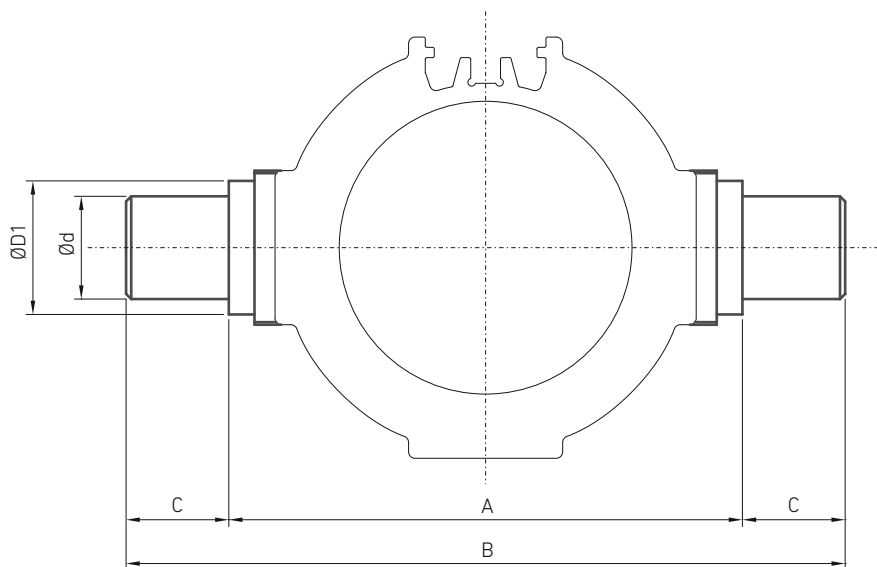
# EXTERIOR TUBE FASTENING ACCESSORIES

## FLANGE WITH BA BOLTS



	Applicable to		
<b>BA-1</b>	A16	AFM1	AHM1
<b>BA-2</b>	A20	AFM2	AHM2
<b>BA-3</b>	A30	AFM3	AHM3
<b>BA-4</b>	A40	AFM4	AHM4

### Assembly position



	A	B	C	Ød f8	ØD1	F	Weight (kg)
<b>BA-1</b>	70	110	20	15	22	90	0.2
<b>BA-2</b>	100	140	20	20	26	115	0.4
<b>BA-3</b>	125	175	25	25	40	110	0.8
<b>BA-4</b>	145	225	40	35	50	130	1.2

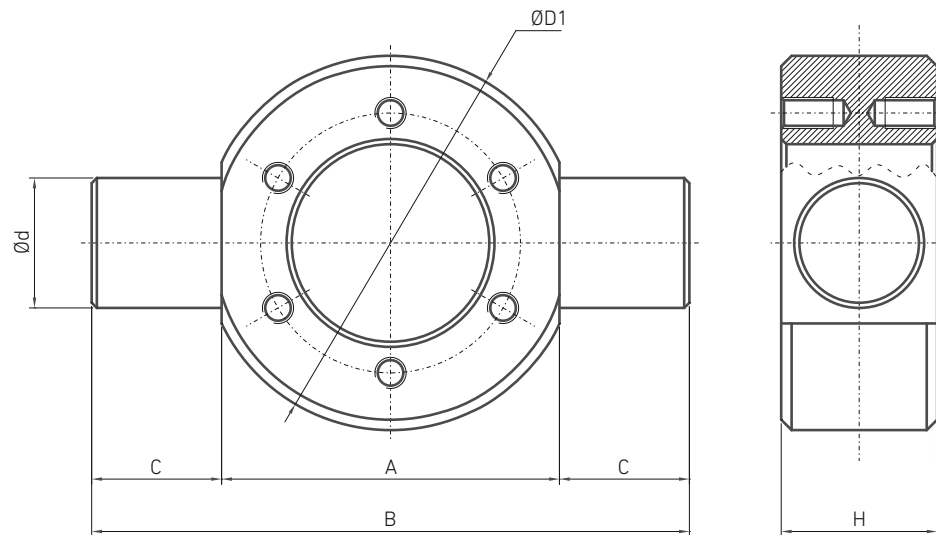
- ... Standard material: C45.
- ... Standard treatment: Bronze-plated.
- ... Special treatment: Zinc-plated (15-20 µm) + heat treated paint (60-80 µm).

**NUT FASTENING ACCESSORIES**

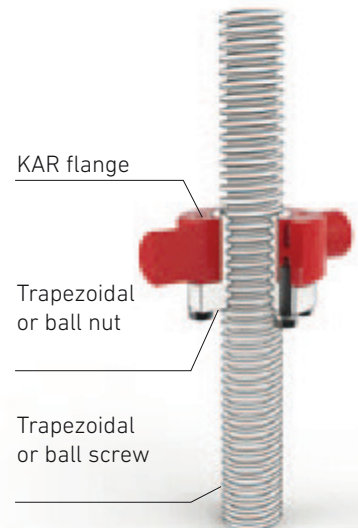
**FLANGE WITH KAR BOLTS**



	Applicable to EFM nut		Applicable to KGF nut				
<b>KAR-1</b>	Tr 16x4	Tr 18x4	KGF-N-D 1605	KGF-D 1610			
<b>KAR-2</b>	Tr 20x4	Tr 24x5 Tr25x5	KGF-N-D 2005				
<b>KAR-3</b>	Tr 28x5	Tr 30x7	KGF-N-D 2505	KGF-D 2510	KGF-D 2520	KGF-D 2525	KGF-D 2550
<b>KAR-4</b>	Tr 36x6		KGF-N-D 3205	KGF-N-D 3210	KGF-D 3220	KGF-N 3240	KGF-N 4005
<b>KAR-5</b>	Tr 40x7		KGF-D 4005	KGF-N-D 4010	KGF-D 4020	KGF-D 4040	
<b>KAR-6</b>	Tr 50x8	Tr 55x9	KGF-N-D 5010				
<b>KAR-7</b>	Tr 60x9		KGF-D 5020	KGF-N-D 6310			
<b>KAR-8</b>	Tr 70x10		KGF-N 6320	KGF-N 8010			



**Assembly position**



	A	B	C	Ød f8	ØD1	H	Weight (kg)
<b>KAR-1</b>	55	85	15	15	58	20	0.35
<b>KAR-2</b>	60	100	20	20	66	25	0.57
<b>KAR-3</b>	65	115	25	25	72	30	0.82
<b>KAR-4</b>	85	165	40	35	94	40	2.2
<b>KAR-5</b>	105	185	40	45	118	50	3.9
<b>KAR-6</b>	120	220	50	50	133	60	5.8
<b>KAR-7</b>	135	255	60	70	163	80	11.9
<b>KAR-8</b>	155	295	70	80	183	90	18.5

- ... Standard material: S355.
- ... Standard treatment: Bronze-plated.
- ... Special treatment: Zinc-plated (15-20 µm) + heat treated paint (60-80 µm).



## SUPPORT ACCESSORIES

# SB TILT SUPPORT

	Applicable to					
	ZK flange		B flange with bolts		F/A and SH flange	
<b>SB-1</b>	ZKM1	ZKV1	ZKV2	BB1	BA1	M205/M501/M601/M605 (F16)
<b>SB-2</b>	ZKM2	ZKV3		BB2	BA2	M205/M501/M601/M605 (F20 and SH20)
<b>SB-3</b>	ZKM3	ZKV4		BB3	BA3	M205/M501/M601/M605 (F30 and SH30)
<b>SB-4</b>	ZKM4	ZKV5		BB4	BA4	M205/M501/M601/M605 (F40 and SH40)
<b>SB-5</b>	ZKM5	ZKV6		BB5		M205/M501/M601/M605 (F45)
<b>SB-6</b>	ZKM6	ZKV7		BB6		M205/M501/M601/M605 (F50)
<b>SB-7</b>	ZKM7	ZKV8		BB7		
<b>SB-8</b>	ZKM8	ZKV9				
<b>SB-9</b>	ZKM9					



### Assembly examples

Example 1



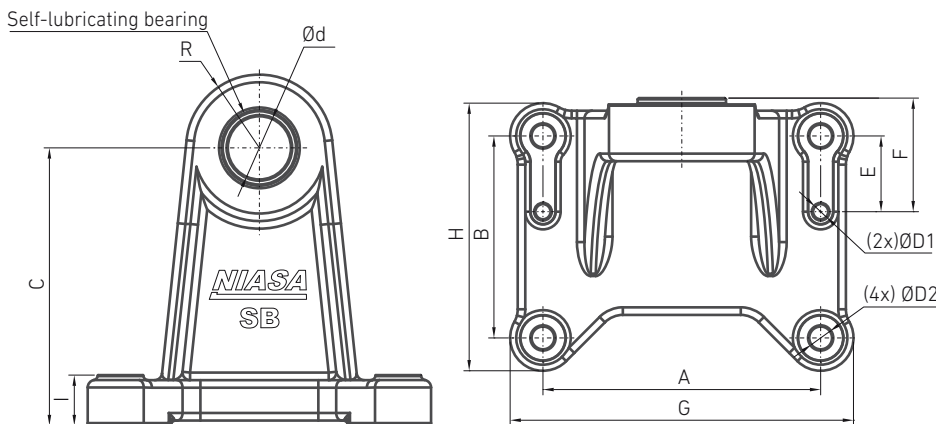
Example 2



Example 3



Example 4

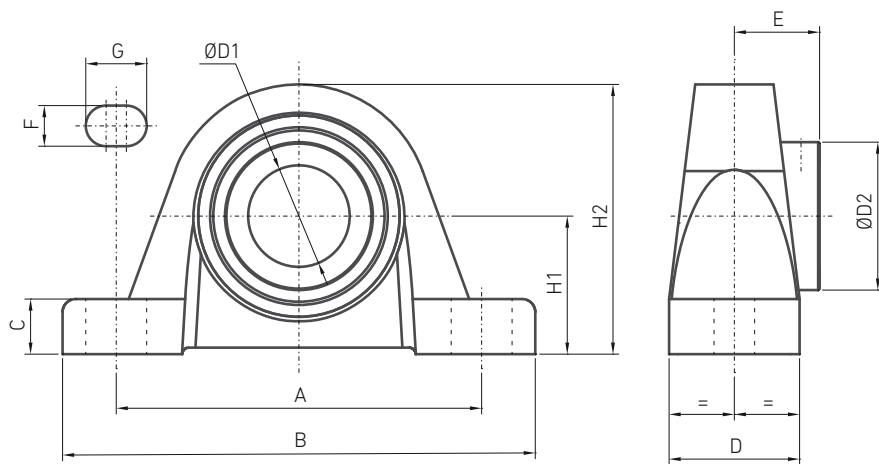
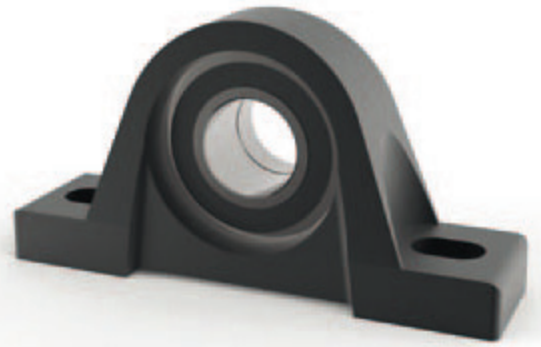


	A	B	C	Ød	ØD2	ØD1 H7	E	F	G	H	I	R	Weight (kg)
<b>SB-1</b>	60	45	65	15 E10	7	5	15	26	80	65	12	17.5	0.25
<b>SB-2</b>	80	60	85	20 E10	9	6	20	31.5	100	80	15	22.5	0.5
<b>SB-3</b>	110	80	110	25 G8	9	6	30	45	136	106	20	29	2.5
<b>SB-4</b>	170	120	150	35 G8	11	8	37	60	206	153	30	40	8.15
<b>SB-5</b>	190	130	160	45 G8	13	10	45	69	230	190	30	46.5	11
<b>SB-6</b>	210	150	175	50 G8	13	10	50	75	250	210	35	55	14.7
<b>SB-7</b>	230	170	200	70 G8	21	12	50	80	280	220	35	70	18.2
<b>SB-8</b>	250	190	240	80 G8	25	16	65	100	310	250	40	75	30
<b>SB-9</b>	280	220	285	90 G8	25	16	60	110	344	284	50	80	46

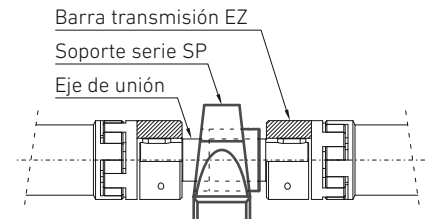
- ... Standard bearing material on SB1 and SB2 models: High-performance polymer.
- ... Standard bearing material on SB3 to SB9 models: Bronze.
- ... Standard material of the body on SB1 and SB2 models: Aluminum L-2560 EN AC 43000-T6.
- ... Standard material of the body on SB3 to SB9 models: Casting GGG 50 DIN.
- ... Standard treatment of the body on SB1 and SB2 models: Anodised.
- ... Standard treatment of the body on SB3 to SB9 models: Bronze-plated.
- ... Special treatment of the body only on SB3 to SB9 models: Zinc-plated (15-20 µm) + heat treated paint (60-80 µm).

**SUPPORT ACCESSORIES**

**SUPPORT FOR SP  
TRANSMISSION BARS**



**Assembly position**



	ØD1	ØD2	A	B	C	D	E	F	G	H1	H2	Capacity (N)		Weight (kg)
												Radial dynamic load capacity	Radial static load capacity	
<b>SP-15</b>	15	28	95	125	10	30	22.1	11	19	30.2	57	9,800	4,750	0.46
<b>SP-20</b>	20	33	97	130	14.5	32	23.5	11	19	33.3	64	12,800	6,600	0.64
<b>SP-25</b>	25	37.5	103	130	14.5	36	23.5	11	19	36.5	70	14,000	7,800	0.55
<b>SP-30</b>	30	44	118	158	17	40	26.8	14	22	42.9	82	19,500	11,300	1.04
<b>SP-35</b>	35	51	126	163	19	45	29.5	14	21	47.6	93	25,500	15,300	1.53
<b>SP-40</b>	40	58	138	179	19	48	32.7	14	26	49.2	99	32,500	19,800	1.71
<b>SP-45</b>	45	63	150	192	21.5	48	32.8	14	29	54	107	32,500	20,400	2.09
<b>SP-50</b>	50	69	158	200	21.5	54	32.8	18	23	57.2	115	35,000	23,200	2.47
<b>SP-55</b>	55	76	176	222	22.5	60	36.4	18	30	63.5	124.5	43,500	29,000	2.79
<b>SP-60</b>	60	84	190	240	25	60	39.76	18	28	69.9	140	52,000	36,000	4.35

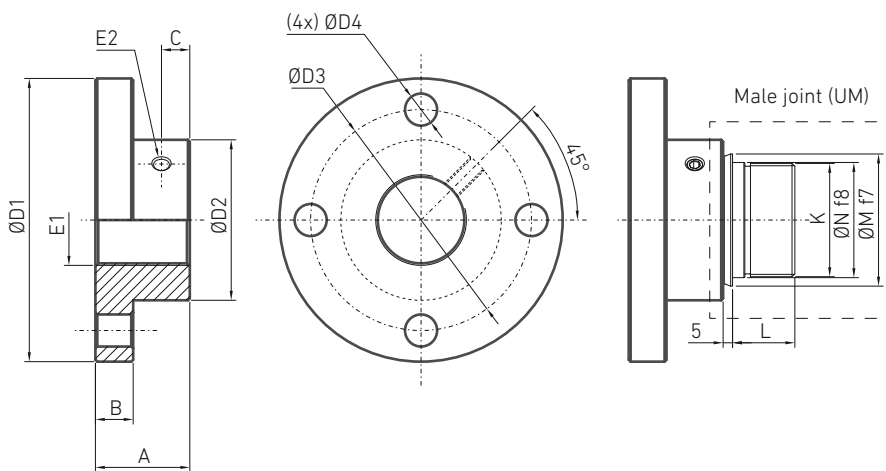
... Standard material: Grey casting.  
 ... Standard treatment: Painted.

## SCREW/STEM ACCESSORIES

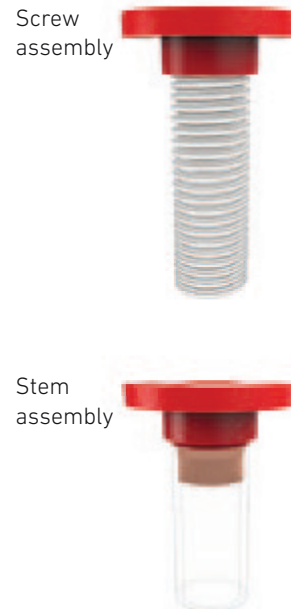
# BPS FLANGE



	Applicable to			
	No male joint	With male joint (UM)		
<b>BPS-1</b>	M1-N-W			
<b>BPS-2</b>	M2-N-W	F16	A16	FM1/AM1 FHM1/AHM1
<b>BPS-3</b>	M3-N-W	F20	A20	FM2/AM2 FHM2/AHM2
<b>BPS-4</b>	M4-N-W	F30	A30	FM3/AM3 FHM3/AHM3
<b>BPS-5</b>	M5-N-W	F40	A40	FM4/AM4 FHM4/AHM4
<b>BPS-6</b>	J1-N-W	F45		FM5 FHM5
<b>BPS-7</b>		F50		FJ1 FHJ1
<b>BPS-8</b>	J3-N-W			
<b>BPS-9</b>	J4-N-W			FJ3 FHJ3
<b>BPS-10</b>	J5-N-W			



### Assembly position



	A	B	C	ØD1	ØD2	ØD3	ØD4	E1	E2	K	L	ØM f7	ØN f8	BPS weight (kg)	BPS + UM weight (kg)
<b>BPS-1</b>	20	7	6.5	65	29	48	9	M12	M5					0.2	
<b>BPS-2</b>	21	8	6.5	80	39	60	11	M14	M6	M26x1.5	17	32	27	0.3	0.45
<b>BPS-3</b>	23	10	6.5	90	46	67	11	M20	M8	M27x2	24	35	29	0.6	0.8
<b>BPS-4</b>	30	15	7.5	110	60	85	13	M30	M8	M42x2	27	50	43	1.2	1.7
<b>BPS-5</b>	50	20	15	150	85	117	17	M36	M10	M60x2	33	70	62	4.8	6.1
<b>BPS-6</b>	50	25	12.5	170	90	130	21	M48x2	M10	M80x2	34	90	82	5	7
<b>BPS-7</b>	60	30	15	200	105	155	25	M56x2	M10	M95x2	40	110	100	7.7	10.5
<b>BPS-8</b>	60	30	15	220	120	170	25	M64x3	M12					9.8	
<b>BPS-9</b>	80	40	20	260	145	205	32	M72x3	M12	M110x2	65	130	114	18.4	25.4
<b>BPS-10</b>	120	40	40	310	170	240	38	M100x3	M12					29.6	

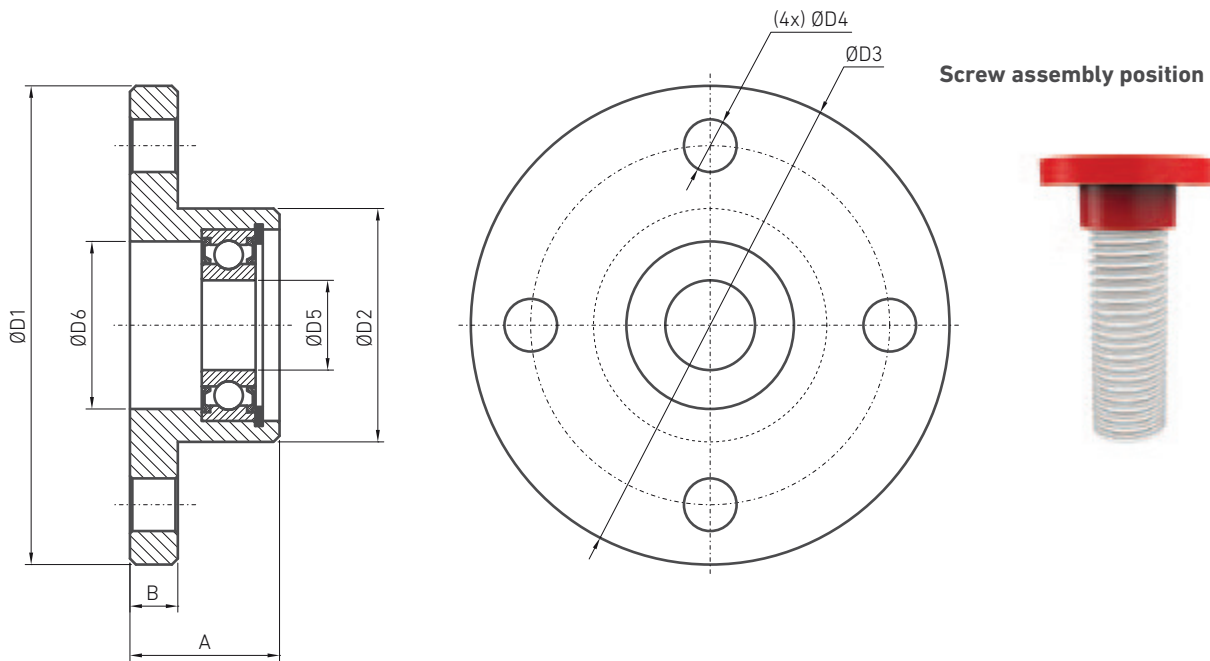
- ... Standard material: C45.
- ... Standard treatment: Bronze-plated.
- ... Special treatment: Zinc-plated (15-20 µm) + heat treated paint (60-80 µm).

## SCREW/STEM ACCESSORIES

# BPR FLANGE



	Applicable to	
<b>BPR-1</b>	M1-R	
<b>BPR-2</b>	M2-R	SH20
<b>BPR-3</b>	M3-R	SH30
<b>BPR-4</b>	M4-R	SH40
<b>BPR-5</b>	M5-R	



	A	B	ØD1	ØD2	ØD3	ØD4	ØD5 H7	ØD6	Weight (kg)
<b>BPR-1</b>	20	7	65	29	48	9	12	20	0.2
<b>BPR-2</b>	25	8	80	39	60	11	15	28	0.3
<b>BPR-3</b>	30	10	90	46	67	11	20	32	0.6
<b>BPR-4</b>	35	15	110	60	85	13	25	42	1.2
<b>BPR-5</b>	55	20	150	85	117	17	40	60	4.8

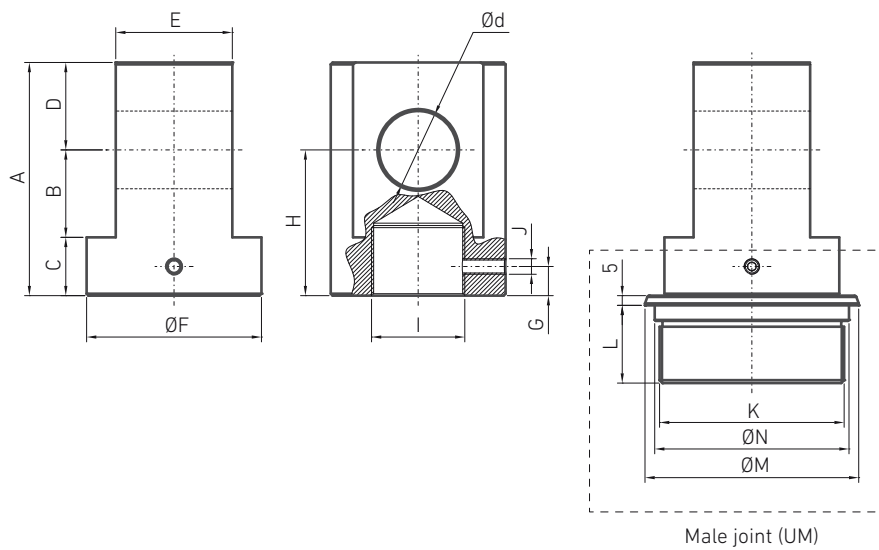
- ... Standard material: C45.
- ... Standard treatment: Bronze-plated.
- ... Special treatment: Zinc-plated (15-20 µm) + heat treated paint (60-80 µm).

**SCREW/STEM ACCESSORIES**

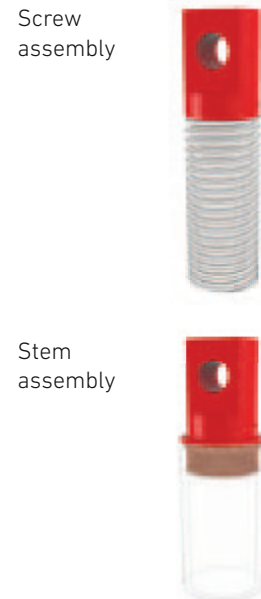
**GKS CLEVIS ROD**



	Applicable to			
	No male joint	With male joint (UM)		
<b>GKS-1</b>	J1-N-W			
<b>GKS-2</b>		F40	A40	FM4/AM4 FHM4/AHM4
<b>GKS-3</b>		F45		FM5 FHM5
<b>GKS-4</b>		F50		FJ1 FHJ1
<b>GKS-5</b>	J3-N-W			
<b>GKS-6</b>	J4-N-W		FJ3	FHJ3
<b>GKS-7</b>	J5-N-W			



**Assembly position**



	Ød H8	A	B	C	D	E b12	ØF	G	H	I	J	K	L	ØM f7	ØN f8	GKS weight (kg)	GKS + UM weight (kg)
<b>GKS-1</b>	40	120	45	30	45	60	90	15	75	M48x2	M8					4.8	
<b>GKS-2</b>	45	120	50	30	40	60	80	15	80	M42x3	M8	M60X2	33	70	62	5.2	6.5
<b>GKS-3</b>	50	135	50	40	45	65	90	20	90	M45x3	M8	M80x2	34	90	82	5.8	7.8
<b>GKS-4</b>	60	150	60	40	50	70	100	20	100	M52x3	M10	M95x2	40	110	100	7	9.8
<b>GKS-5</b>	60	155	60	45	45	80	120	22	105	M64x3	M10					8	
<b>GKS-6</b>	80	220	85	50	75	110	145	25	135	M72x3	M12	M110x2	65	130	124	22.5	29.5
<b>GKS-7</b>	90	300	100	100	100	120	170	30	200	M100x3	M14					31.5	

- ... Standard material: C45.
- ... Standard treatment: Bronze-plated.
- ... Treatment: Zinc-plated (15-20 µm) + heat treated paint (60-80 µm).



**DISTRIBUIDOR AUTORIZADO**

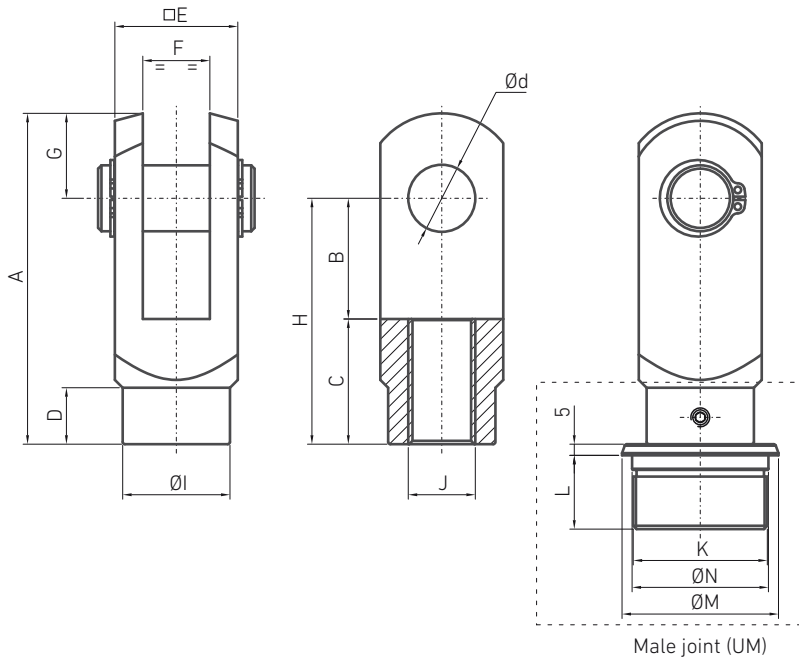
MEX (55) 53 63 23 31 MTY (81) 83 54 10 18  
 QRO (442) 1 95 72 60 ventas@industrialmagza.com

**SCREW/STEM ACCESSORIES**

**GKB DOUBLE CLEVIS ROD**



	Applicable to			
	No male joint	With male joint (UM)		
<b>GKB-1</b>	M1-N-W			
<b>GKB-2</b>	M2-N-W			
<b>GKB-3</b>		F16	A16	FM1/AM1 FHM1/AHM1
<b>GKB-4</b>	M3-N-W	F20	A20	FM2/AM2 FHM2/AHM2
<b>GKB-5</b>		F30	A30	FM3/AM3 FHM3/AHM3
<b>GKB-6</b>	M4-N-W			
<b>GKB-7</b>	M5-N-W	F40	A40	FM4/AM4 FHM4/AHM4
<b>GKB-8</b>		F45		FM5 FHM5
<b>GKB-9</b>	J1-N-W	F50		FJ1 FHJ1



**Assembly position**

Screw assembly



Stem assembly



	Ød H9	A	B	C	D	□E	F B12	G	H	Øl	J	K	L	ØM f7	ØN f8	GKB weight (kg)	GKB + UM weight (kg)
<b>GKB-1</b>	12	62	24	22	18	24	12	16	48	20	M12					0.12	
<b>GKB-2</b>	14	72	28	28	22.5	27	14	16	56	24	M14					0.18	
<b>GKB-3</b>	16	83	32	32	24	32	16	19	64	30	M16x1.5	M26x1.5	17	32	27	0.4	0.55
<b>GKB-4</b>	20	105	40	40	30	40	20	25	80	34	M20	M27x2	24	35	29	0.55	0.75
<b>GKB-5</b>	30	148	54	56	40	55	30	38	110	48	M27x2	M42x2	27	50	43	1.44	1.95
<b>GKB-6</b>	30	148	60	56	40	60	30	38	120	48	M30					1.65	
<b>GKB-7</b>	35	188	72	72	54	70	35	44	144	60	M36					2.93	
<b>GKB-8</b>	40	232	84	84	63.5	85	40	64	168	70	M42x2	M60x2	33	70	62	5.34	6.64
<b>GKB-9</b>	50	265	96	96	73	96	50	73	192	82	M48x2	M80x2	34	90	82	7.86	9.86

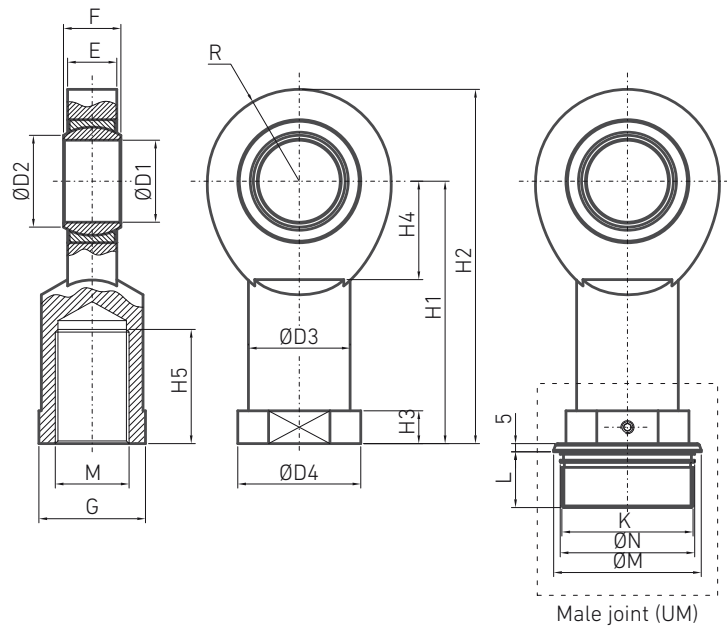
- ... Standard material: C45.
- ... Standard treatment: Zinc-plated (15-20µm).
- ... Special treatment: Zinc-plated (15-20 µm) + heat treated paint (60-80 µm).

# SCREW/STEM ACCESSORIES

## CLEVIS ROD WITH GIR BALL JOINT



	Applicable to			
	No male joint	With male joint (UM)		
<b>GIR-12</b>	M1-N-W			
<b>GIR-15</b>	M2-N-W	F16	A16	FM1/AM1 FHM1/AHM1
<b>GIR-20</b>	M3-N-W	F20	A20	FM2/AM2 FHM2/AHM2
<b>GIR-30</b>	M4-N-W	F30	A30	FM3/AM3 FHM3/AHM3
<b>GIR-35</b>	M5-N-W			
<b>GIR-45</b>	J1-N-W	F40	A40	FM4/AM4 FHM4/AHM4
<b>GIR-50</b>		F45		FM5 FHM5
<b>GIR-60</b>	J3-N-W	F50		FJ1 FHJ1
<b>GIR-70</b>				FJ3 FHJ3



### Assembly position

Screw assembly



Stem assembly



	ØD1	ØD2	ØD3	ØD4	R	H1	H2	H3	H4	H5	E	F	G	M	K	L	ØM f7	ØN f8	GIR weight (kg)	GIR + UM weight (kg)
<b>GIR-12</b>	12 <sup>0</sup> <sub>-0,008</sub>	15	17.5	22	17	50	67	7	17.5	23	8	10 <sup>0</sup> <sub>-0,12</sub>	19	M12					0.096	
<b>GIR-15</b>	15 <sup>0</sup> <sub>-0,008</sub>	18.4	21	26	20	61	81	8	20	30	10	12 <sup>0</sup> <sub>-0,12</sub>	22	M14	M26x1.5	17	32	27	0.18	0.34
<b>GIR-20</b>	20 <sup>0</sup> <sub>-0,010</sub>	24.1	27.5	35	26.5	77	103.5	10	27.5	40	13	16 <sup>0</sup> <sub>-0,12</sub>	32	M20x1.5	M27x2	24	35	29	0.39	0.59
<b>GIR-30</b>	30 <sup>0</sup> <sub>-0,012</sub>	34.2	40	50	36.5	110	146.5	15	37	56	19	22 <sup>0</sup> <sub>-0,12</sub>	41	M30x2	M42x2	27	50	43	1.02	1.42
<b>GIR-35</b>	35 <sup>0</sup> <sub>-0,012</sub>	39.7	47	58	41	125	166	15	42	60	21	25 <sup>0</sup> <sub>-0,12</sub>	50	M36x3					1.46	
<b>GIR-45</b>	45 <sup>0</sup> <sub>-0,012</sub>	50.7	62	70	51	145	196	18	52	65	27	32 <sup>0</sup> <sub>-0,12</sub>	62	M42x3	M60x2	33	70	62	2.65	3.95
<b>GIR-50</b>	50 <sup>0</sup> <sub>-0,012</sub>	56	68	75	56	160	216	20	59	68	30	35 <sup>0</sup> <sub>-0,12</sub>	68	M45x3	M80x2	34	90	82	3.53	5.53
<b>GIR-60</b>	60 <sup>0</sup> <sub>-0,015</sub>	66.8	78	88	67.5	175	242.5	20	75	70	37	44 <sup>0</sup> <sub>-0,15</sub>	78	M52x3	M95x2	40	110	100	5.55	8.35
<b>GIR-70</b>	70 <sup>0</sup> <sub>-0,015</sub>	77.8	85	98	81	200	280	20	87	80	42	49 <sup>0</sup> <sub>-0,15</sub>	85	M56x4	M110x2	65	130	114	8.4	15.4

- ... Standard material: C 45.
- ... Standard treatment: Zinc-plated (15-20µm).
- ... Special treatment: Zinc-plated (15-20 µm) + heat treated paint (60-80 µm).



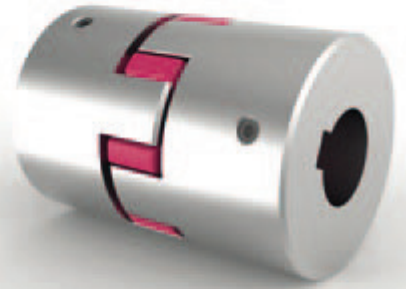
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**TRANSMISSION ACCESSORIES****ALUMINIUM COUPLING WITH EK ELASTOMER****ASSEMBLY WITH KEY**

0.5 – 2,150 Nm.

**FEATURES**

- ... Pressure-fitting design.
- ... Adaptable to the customer's size specifications.
- ... Reduced play (keyway).

**MATERIAL**

- ... Hubs: up to size 450 high-resistance aluminum, size 800 steel.
- ... Elastomer: Thermally stable and wear-resistant TPU

**DESIGN**

Two concentrically machined hubs with curved grips (concave), keyway and studs. The elastomer is fitted at pressure for reduced play. Standard versions electrically insulated.

**OPTIONAL**

Conical holes for Fanuc motors and other types of shafts of the same type are available.

**NOTES ABOUT THE SPECIFICATIONS OF THE MACHINED-PRE-HOLE ( $D_v$ ) OF THE COUPLING**

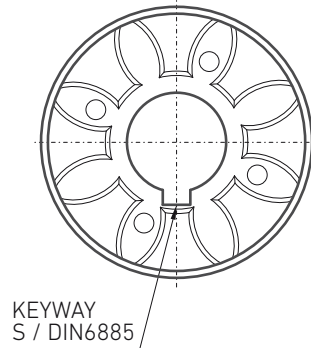
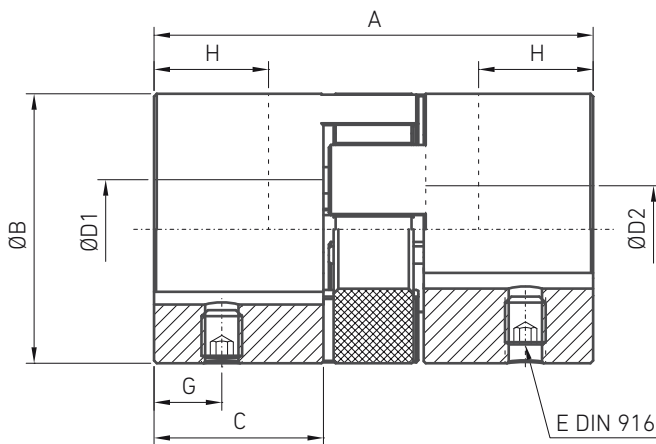
The pre-machined hole of the hubs ( $D_v$ ) can be adapted to the customer's requirements. They come with a small pre-machined hole and with no stud.

For precision applications, a concentricity tolerance of 0.03 is recommended for smooth operation. The hub can be cut to a length of no more than the H dimension.

Holes <  $\varnothing 6$  mm are made without keyway.

**NOTES**

- ... For couplings with nominal torque up to 25,000 Nm please ask NIASA.
- ... For further information about torsional rigidities, critical speeds, etc., please ask NIASA.



* Stud size		
Ø D <sub>1-2</sub>		E
- 10		M3
> 10 - 12		M4
> 12 - 30		M5
> 30 - 58		M8
> 58 - 95		M10
> 95 - 130		M12
> 130 - 170		M16
> 130 - 170		M16

Size	2			5			10			20			60			150			300			450			800			
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C				
Elastomer type																												
Nominal torque (Nm)	T <sub>KN</sub>	2	2.4	0.5	9	12	2	12.5	16	4	17	21	6	60	75	20	160	200	42	325	405	84	530	660	95	950	1,100	240
Maximum torque (Nm)	T <sub>Kmax</sub>	4	4.8	1	18	24	4	25	32	6	34	42	12	120	150	35	320	400	85	650	810	170	1,060	1,350	190	1,900	2,150	400
Total length (mm)	A	20			34			35			66			78			90			114			126			162		
Exterior diameter (mm)	B	15			25			32			42			56			66.5			82			102			136.5		
Pivot length (mm)	C	6.5			12			12			25			30			35			45			50			65		
Pre-hole diameter (mm)	D <sub>v</sub>	3			4			6			7			9			14			18			22			29		
Interior hole range H7 (mm)	D <sub>1-2</sub>	3 - 9			6 - 15			6 - 18			8 - 25			12 - 32			19 - 38			20 - 45			28 - 60			32 - 80		
Interior elastomer diameter (mm)	D <sub>e</sub>	6.2			10.2			14.2			19.2			26.2			29.2			36.2			46.2			60.5		
Studs (DIN 916)	E	See table (Depends on the Ø of the hole)*																										
Stud distances (mm)	G	3			5			6			9			11			12			15			17			30		
Possible length to cut (mm)	H	4			6			6			19			22			26			32			37			43		
Inertia moment by hub (10 <sup>-3</sup> kgm <sup>2</sup> )	J <sub>1</sub> /J <sub>2</sub>	0.0001			0.001			0.003			0.02			0.06			0.1			0.4			1.1			12		
Approximate weight (kg)		0.008			0.03			0.08			0.15			0.35			0.6			1.1			1.7			11		
Standard speed (min <sup>-1</sup> )		15.000			15.000			13.000			15.500			11.000			10.000			9.000			8.000			4.000		
Balanced speed (10 <sup>-3</sup> min <sup>-1</sup> )		60	67	45	57	65	43	53	63	40	45	60	35	31	31	25	22	26	18	22	26	16	16	17	12	13	13	8

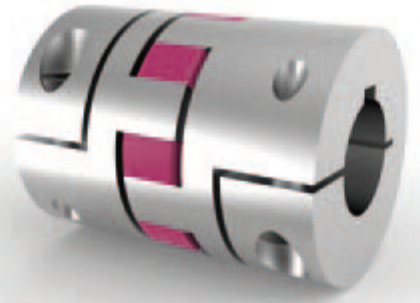
For information about shaft misalignment, torsional rigidity and other details about the elastomer inserts, please see the corresponding chapter.

### Placing an order

Model	Size	Elastomer type	Hole D <sub>1</sub> H7	Hole D <sub>2</sub> H7	XX
EK	60	A	19	25	Special requirements

For custom specifications, please indicate the special requirements in the box XX.

For example: XX= Anodized aluminum, stainless steel, special hole tolerance, DIN / ANSI keyways, s/flat holes, Fine balanced (25,000 rpm), ISO G2.5 fine balanced (30,000 rpm), etc.

**TRANSMISSION ACCESSORIES****ALUMINIUM-PAINTED COUPLING  
WITH PK ELASTOMER****STANDARD VERSION  
WITH FASTENING HUB**

6 – 2,150 Nm.

**FEATURES**

- ... Easy assembly.
- ... High concentricity assembly.
- ... Vibration absorption.

**MATERIAL**

- ... Hubs: up to size 450 high-resistance aluminum, size 800 steel.
- ... Elastomer: Thermally stable and wear-resistant TPU

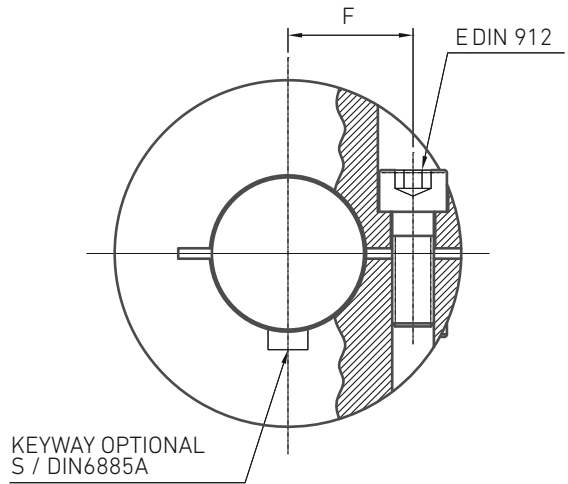
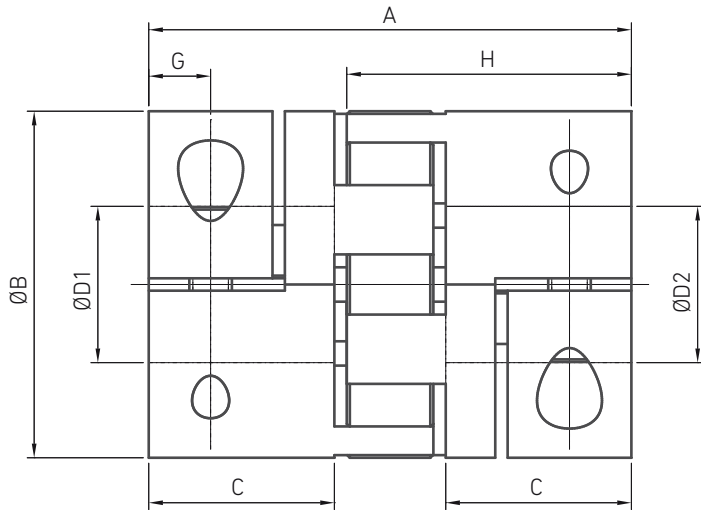
**DESIGN**

Two concentrically machined hubs with curved grips (concave) and fastening screws.

The elastomer is fitted at pressure for reduced play.

Standard versions electrically insulated.

Note: For further information about torsional rigidities, critical speeds, etc., please ask NIASA.



Size	20			60			150			300			450			800		
Elastomer type	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Nominal torque (Nm)	$T_{KN}$			$T_{KN}$			$T_{KN}$			$T_{KN}$			$T_{KN}$			$T_{KN}$		
Maximum torque (Nm)	$T_{Kmax}$			$T_{Kmax}$			$T_{Kmax}$			$T_{Kmax}$			$T_{Kmax}$			$T_{Kmax}$		
Total length (mm)	A			A			A			A			A			A		
Exterior diameter (mm)	B			B			B			B			B			B		
Exterior diameter with the head of the screw (mm)	$B_s$			$B_s$			$B_s$			$B_s$			$B_s$			$B_s$		
Pivot length (mm)	C			C			C			C			C			C		
Interior hole range H7 (mm)	$D_{1-2}$			$D_{1-2}$			$D_{1-2}$			$D_{1-2}$			$D_{1-2}$			$D_{1-2}$		
Interior elastomer diameter (mm)	D			D			D			D			D			D		
Fastening screw (ISO 4762 / DIN912)	E			E			E			E			E			E		
Fastening torque of the fastening screw (Nm)	8			15			35			70			120			290		
Distance between the centres (mm)	F			F			F			F			F			F		
Screw distance (mm)	G			G			G			G			G			G		
Inertia moment by hub ( $10^{-3} \text{kgm}^2$ )	$J_1/J_2$			$J_1/J_2$			$J_1/J_2$			$J_1/J_2$			$J_1/J_2$			$J_1/J_2$		
Approximate weight (kg)	0.15			0.35			0.6			1.1			1.7			10		
Standard speed ( $\text{min}^{-1}$ )	12.500			11.000			10.000			9.000			8.000			4.000		
Balanced speed ( $10^{-3} \text{min}^{-1}$ )	45	60	35	31	31	25	22	26	18	22	26	16	16	17	12	13	13	8

For information about shaft misalignment, torsional rigidity and other details about the elastomer inserts, please see the corresponding chapter.

The maximum torque transferrable by the fastening flange depends on the diameter of the hole.

Size	Ø8	Ø16	Ø19	Ø25	Ø30	Ø32	Ø35	Ø45	Ø50	Ø55	Ø60	Ø65	Ø70	Ø75	Ø80
20	20	35	45	60											
60		50	80	100	110	120									
150			120	160	180	200	220								
300			200	230	300	350	380	420							
450				420	480	510	600	660	750	850					
800						700	750	800	835	865	900	925	950	1,000	

Possibility to transfer more torque with keyways.

### Placing an order

Model	Size	Elastomer type	Hole D <sub>1</sub> H7	Hole D <sub>2</sub> H7	XX
PK	60	A	19	25	Special requirements

For personalised specifications, enter XX in the box at the end of the order for special requirements:

For example: XX= Anodized aluminum, stainless steel, special hole tolerance, DIN / ANSI keyways, s/flat holes, fine balanced (25,000 rpm), ISO G2.5 fine balanced (30,000 rpm), etc.

**TRANSMISSION ACCESSORIES****ALUMINIUM-PAINTED  
COUPLING WITH  
BK BELLOW****WITH FASTENING HUB**

2 – 500 Nm.

**FEATURES**

- ... Easy assembly.
- ... Lightweight and low inertia moment.
- ... Economical design.

**MATERIAL**

- ... Bellow: High-grade stainless steel.
- ... Hubs: see table.

**DESIGN**

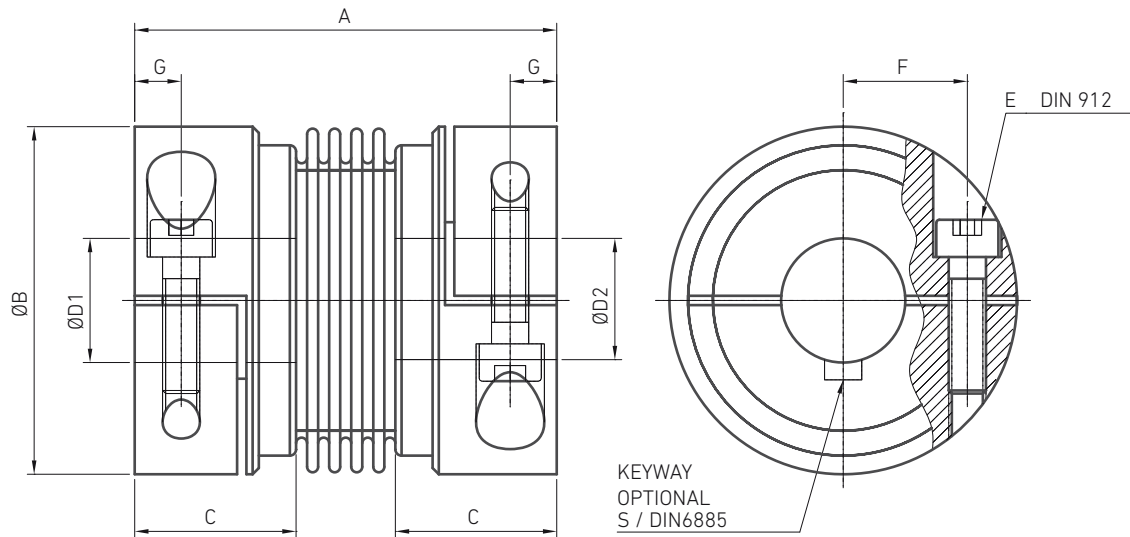
Two hubs with fastening flange fitted concentrically to a flexible bellow and fastening screws.

Accepts slight overloads of up to 1.5 x the nominal torque.

**Optional**

Fastening system with self-opening for opening the hole for loosening the fastening screw during installation and extraction.

Note: For further information about torsional rigidities, critical speeds, etc., please ask NIASA.



Size		2	4.5	10	15	30	60	80	150	300	500
Nominal torque (Nm)	$T_{KN}$	2	4.5	10	15	30	60	80	150	300	500
Total length (mm)	$A^2$	30	40	44	58	68	79	92	92	109	114
Exterior diameter (mm)	B	25	32	40	49	56	66	82	82	110	123
Adjustment length (mm)	C	10.5	13	13	21.5	26	28	32.5	32.5	41	42.5
Interior hole range H7 (mm)	$D_{1-2}$	4 - 12.7	6 - 16	6 - 24	8 - 28	10 - 32	14 - 35	16 - 42	19 - 42	24 - 60	35 - 62
Fastening screw (ISO 4762 / DIN912)	E	M3	M4	M4	M5	M6	M8	M10	M10	M12	M16
Fastening torque of the fastening screw (Nm)		2.3	4	4.5	8	15	40	70	85	120	200
Distance between the centres (mm)	F	8	11	14	17	20	23	27	27	39	41
Screw distance (mm)	G	4	5	5	6.5	7.5	9.5	11	11	13	17
Inertia moment ( $10^{-3} \text{kgm}^2$ )	$J_1/J_2$	0.002	0.007	0.016	0.065	0.12	0.3	0.75	1.8 0.8	7.5 3.1	11.7 4.9
Hub material		Aluminum Op. steel	Aluminum Op. steel	Aluminum Op. steel	Aluminum Op. steel	Aluminum Op. steel	Aluminum Op. steel	Aluminum Op. steel	Steel Op. alum.	Steel Op. alum.	Steel Op. alum.
Approximate weight (kg)		0.02	0.05	0.06	0.16	0.25	0.4	0.7	1.7 0.75	3.8 1.6	4.9 2.1
Torsional rigidity (103 Nm/rad)	$C_T$	1.5	7	9	23	31	72	80	141	157	290
Axial $\pm$ (mm)		0.5	1	1	1	1	1.5	2	2	2	2.5
Lateral $\pm$ (mm)	Max. value	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Angular $\pm$ (grades)		1	1	1	1	1	1	1	1	1	1
Spring axial rigidity (N/mm)	$C_a$	8	35	30	30	50	67	44	77	112	72
Spring lateral rigidity (N/mm)	$C_r$	50	350	320	315	366	679	590	960	2,940	1,450

### Placing an order

Model	Size	Elastomer type	Hole $D_1$ H7	Hole $D_2$ H7	XX
BK	60	A	19	25	Special requirements

For personalised specifications, enter XX in the box at the end of the order for special requirements:

For example: XX= Anodized aluminum hubs, stainless steel hubs, special hole tolerance, DIN / ANSI keyways, s/flat holes, fine balanced (25,000 rpm), etc.



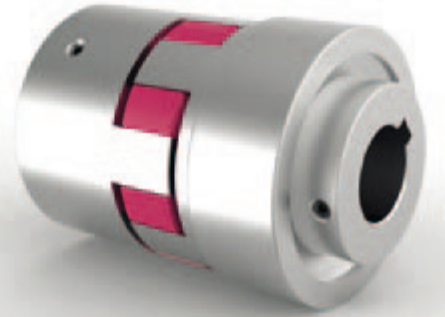
DISTRIBUIDOR  
AUTORIZADO

MEX (55) 53 63 23 31  
QRO (442) 1 95 72 60

MTY (81) 83 54 10 18  
ventas@industrialmagza.com

## TRANSMISSION ACCESSORIES

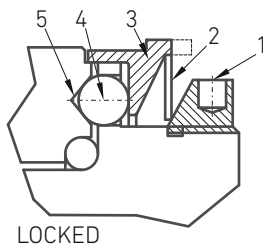
# ALUMINIUM COUPLING WITH ELASTOMER AND ES TORQUE LIMITER



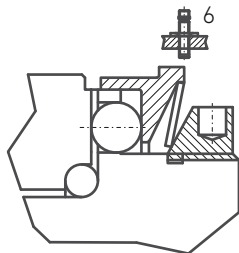
### GENERAL SPECIFICATIONS

NIASA safety couplings work as a clutch by retaining balls pressed by spring. They protect the drive system (motors, gears, screws, etc.) from damage that may be caused by collisions and other types of machine overloads.

- ... The torque is transmitted by means of very hard balls (4) pressed on to conical locking mechanisms (5).
- ... The balls are pressed in the conical housings with a spring washer (2) through the commutator plate (3).
- ... The disconnecting torque can be adjusted at any time using the torque adjustment nut (1).
- ... The balls input their locking mechanisms, moving the commutator plate and the spring washer system back, disconnecting the input from the input.
- ... The movement of the commutator plate can be used by a proximity sensor (6) to send a stop signal.



LOCKED



UNLOCKED

### OPERATING SYSTEM

#### Automatic re-engage:

In this design the spring washer continues applying a residual load after disconnection.

This load is sufficient to re-engage the coupling automatically once the torque has dropped from the calibrated value.

**Single position:** Re-engaging only occurs in the original position maintaining the synchronicity of the shafts.

**Multi-position:** Re-engaging occurs in multiple angular intervals. As standard at 60° (30°, 45°, 90°, 120°, as optional).

Note: Re-engaging only occurs at low speeds.

#### ASSEMBLY WITH KEY AND ELASTOMER FOR DIRECT DRIVE

1 – 150 Nm.

#### MATERIAL

- ... Hubs: up to size 450 high-resistance aluminum.
- ... Clutch system: High-resistance steel, balls made from hard steel.
- ... Elastomer: Thermally stable and wear-resistant TPU

### DESIGN

Two concentrically machined hubs with curved grips (concave), keyway and studs. The elastomer is fitted at pressure for reduced play.

Vibration absorption.

Standard versions electrically insulated.

The clutch system is integrated in one of the hubs. All the couplings have multi-position functioning according to the pre-load given, to the ball locking system.

#### WEAR

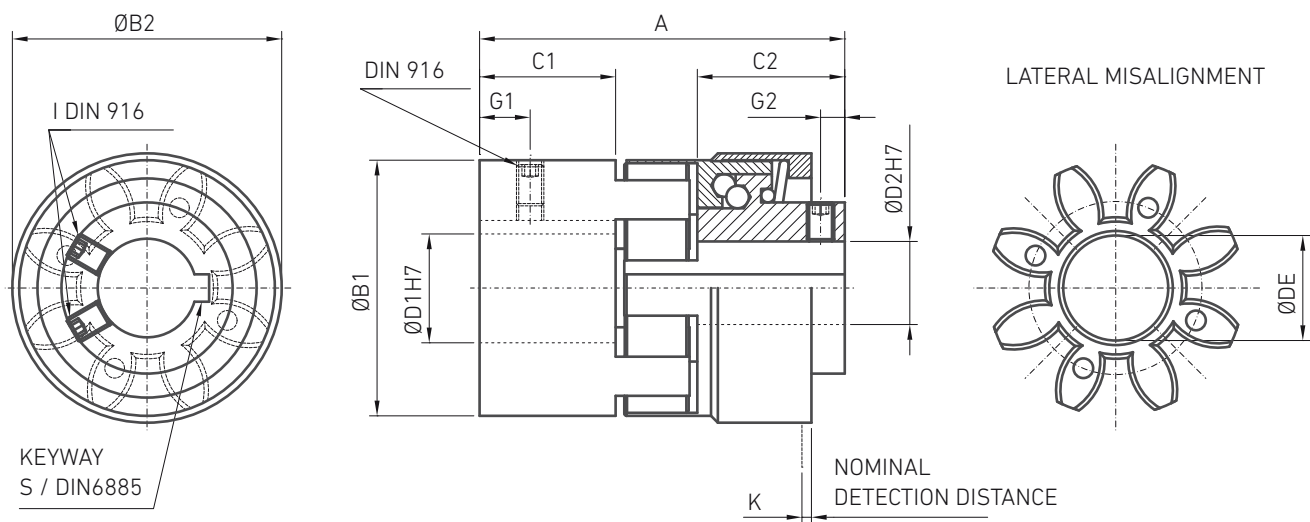
Negligible below 200 rpm. Contact NIASA for high speed applications.

#### DISCONNECTION TORQUE ADJUSTMENT

The ES coupling is different to other safety couplings, the disconnection torque is permanent and tamper-proof.

Holes <  $\varnothing 6$  mm are made without keyway.

Note: For further information about torsional rigidities, critical speeds, etc., please ask NIASA.



* Stud size	
Ø D <sub>1-2</sub>	E
- 10	M3
> 10 - 12	M4
> 12 - 30	M5
> 30 - 58	M8
> 58 - 95	M10

Size	5		10		20		60		150		
	A	B	A	B	A	B	A	B	A	B	
Elastomer type											
Nominal torque (Nm)	T <sub>Kn</sub>	9	12	12.5	16	17	21	60	75	160	200
Torque adjustment from - to (Nm)	T <sub>Kn</sub>	1 - 6		1 - 12		3 - 19		5 - 60		20 - 150	
Total length (mm)	A	34		45		64		80		90	
Exterior diameter (mm)	B <sub>1</sub>	25		32		42		56		66.5	
Exterior diameter (mm)	B <sub>2</sub>	29		32		46		59		75	
Pivot length (mm)	C <sub>1</sub>	12.5		12		25		30		35	
Pivot length (mm)	C <sub>2</sub>	11.5		20		22		31		35	
Interior hole range H7 (mm)	D <sub>1</sub>	6 - 15		6 - 18		8 - 25		12 - 32		19 - 38	
Interior hole range H7 (mm)	D <sub>2</sub>	6 - 10		6 - 12		8 - 19		12 - 24		19 - 32	
Interior elastomer diameter (mm)	D <sub>E</sub>	10.2		14.2		19.2		26.2		29.2	
Studs (DIN 916)	E	See table (Depends on the Ø of the hole)*									
Stud distance (mm)	G <sub>1</sub>	5		6		9		11		12	
Stud distance (mm)	G <sub>2</sub>	2.5		3.5		4		4		4	
Inertia moment (10 <sup>-3</sup> kgm <sup>2</sup> )	J <sub>1</sub> /J <sub>2</sub>	0.001		0.002		0.08		0.15		0.5	
Approximate weight (kg)		0.05		0.15		0.2		0.5		1	
Action distance (min <sup>-1</sup> )	K	0.6		0.6		0.7		1.1		1.4	

For information about shaft misalignment, torsional rigidity and other details about the elastomer inserts, please see the corresponding chapter.

### Placing an order

Model	Size	Elastomer type	Hole D <sub>1</sub> H7	Hole D <sub>2</sub> H7	XX
ES	60	A	19	25	Special requirements

For personalised specifications, enter XX in the box at the end of the order for special requirements:

For example: XX= Anodized aluminum, stainless steel, special hole tolerance, DIN / ANSI keyways, s/flat holes, Fine balanced (25,000 rpm), ISO G2.5 fine balanced (30,000 rpm), etc.





## TRANSMISSION ACCESSORIES

# STEEL COUPLING WITH RA ELASTOMER



### ASSEMBLY WITH KEY

7.5 – 4,500 Nm.

### FEATURES

- Pressure-fitting design.
- Two types of hubs (short and long) to adapt to the customer's requirements.
- Reduced play (keyway).

### MATERIAL

- Hubs: up to size 28 steel, from size 38 GG25 casting.
- Elastomer: Thermally stable and wear-resistant TPU

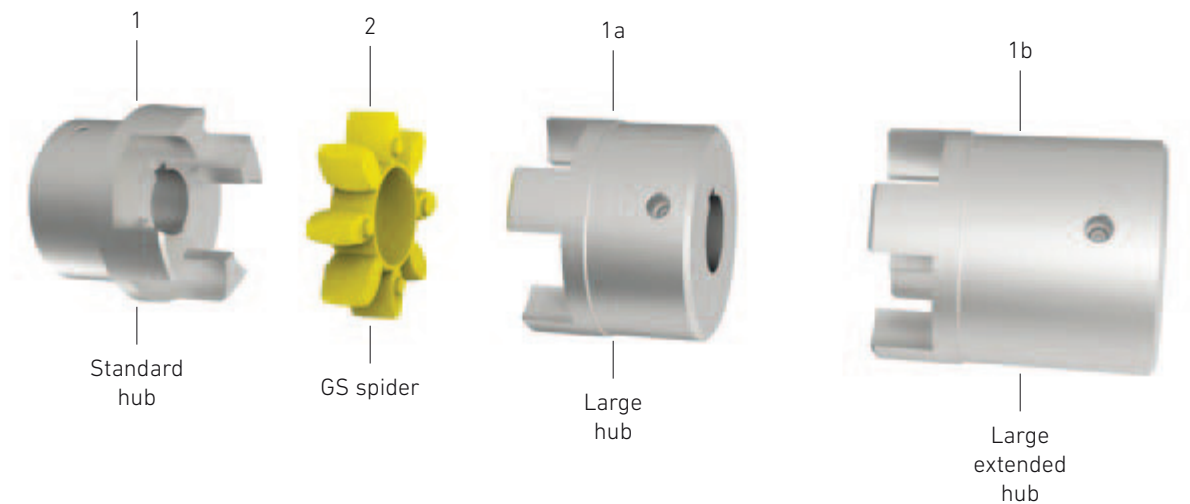
### DESIGN

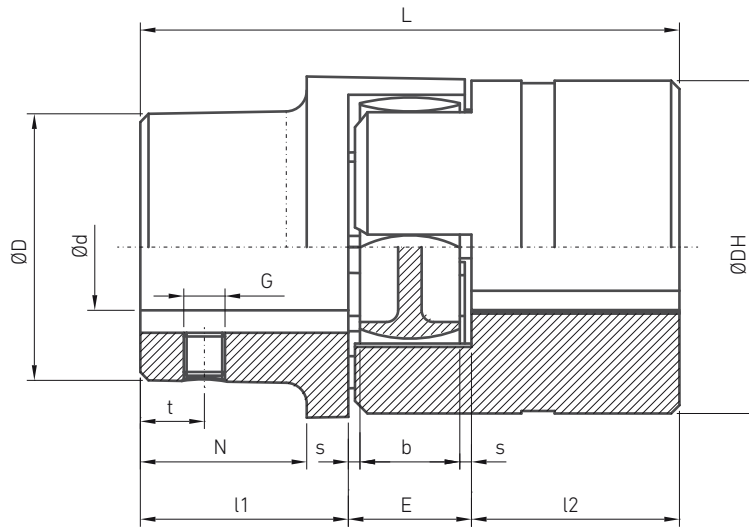
Two concentrically machined hubs with curved grips (concave), keyway and studs.

The elastomer is fitted at pressure for reduced play.

Since the hubs do not have pre-hole there is no limitation in terms of the minimum diameter of the shaft for any size.

Note: For further information about torsional rigidities, critical speeds, etc., please ask NIASA.





RA Series elastic coupling

Size	Component	"Spider (part 2) Nominal torque [Nm]"				DIMENSIONS [mm]										
		92 Sh A	98 Sh A	64 Sh D	"Hole d (min-max)"	General					Spec. Steel		Thread for screws			
						L	l1; l2	E	b	s	D <sub>H</sub>	D <sub>1</sub> ; D <sub>2</sub>	N	G	t	TA (Nm)
14	1a	7.5	12.5	16	0-16	35	11	13	10	1.5	30	30	-	M4	5	1.5
	50					18.5										
19	1a	10	17	21	0-25	66	25	16	12	2	40	40	-	M5	10	2
	90					37										
24	1a	35	60	75	0-35	78	30	18	14	2	55	55	-	M5	10	2
	118					50										
28	1a	95	160	200	0-40	90	35	20	15	2.5	65	65	-	M8	15	10
	140					60										
Casting EN-GJL-250 (GG25)																
38	1	190	325	405	12-40	114	45	24	18	3	80	66	37	M8	15	10
	1a				38-48	164	70					78	62			
42	1	265	450	560	14-45	126	50	26	20	3	95	75	40	M8	20	10
	1a				42-55	176	75					94	65			
48	1	310	525	655	15-52	140	56	28	21	3.5	105	85	45	M8	20	10
	1a				48-62	188	80					104	69			
55	1	410	685	825	20-60	160	65	30	22	4	120	98	52	M10	20	17
	1a				55-74	210	90					118	120			
65	1	625	940	1,175	22-70	185	75	35	26	4.5	135	115	61	M10	20	17
	1a				65-80	235	100					135				
75	1	1,280	1,920	2,400	30-80	210	85	40	30	5	160	135	69	M10	25	17
	1a				75-95	260	110					160				
90	1	2,400	3,600	4,500	30-95	245	100	45	34	5.5	200	160	81	M12	30	40
	1a				40-97	295	125					200				
	1b				90-110											

Placing an order

Coupling size	Material	Spider hardness (Shore A)	Hub type	Hole	Hub type	Hole
RA-19	St	92	1a	ø20	1a	ø15

## TRANSMISSION ACCESSORIES

# TRANSMISSION SHAFT PAINTED IN ALUMINIUM WITH EZ ELASTOMER



### WITH TOTALLY DIVIDED FASTENING HUB

12.5 – 2,150 Nm.

### FEATURES

- ... Easy assembly and disassembly.
- ... Standard lengths up to 4 m.
- ... Does not require intermediate bearing supports.

### MATERIAL

- ... Hubs: up to size 450 high-resistance aluminum, size 800 steel.
- ... Intermediate tube: up to size 450 high resistance aluminum 800 steel, optionally CKF tube on request.
- ... Elastomer: Thermally stable and wear-resistant TPU

### DESIGN

Two concentrically machined hubs with curved grips (concave) and fastening screws. The elastomer is fitted at pressure for zero play, absorption of vibrations and the standard versions are electrically insulated. The intermediate precision tube has great lateral straightness and rigidity.

### INSTALLATION

The total length (A) is selected correctly by means of the distance between the sides of both shafts (P) plus 2x the size (O).

For transmission shafts up to 25,000 Nm please ask NIASA.

Note: For further information about torsional rigidities, critical speeds, etc., please ask NIASA.

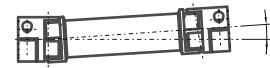
### Lateral misalignment



$$\Delta Kr_{\max} = \tan \Delta_{Kw/2} AB \text{ (m)}$$

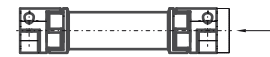
$$AB = A - 2 \times N$$

### Angular misalignment

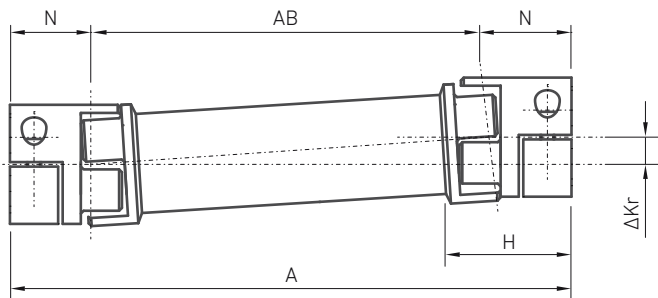


$$\Delta KW_{\max} = \text{ca. } 2^\circ$$

### Axial misalignment

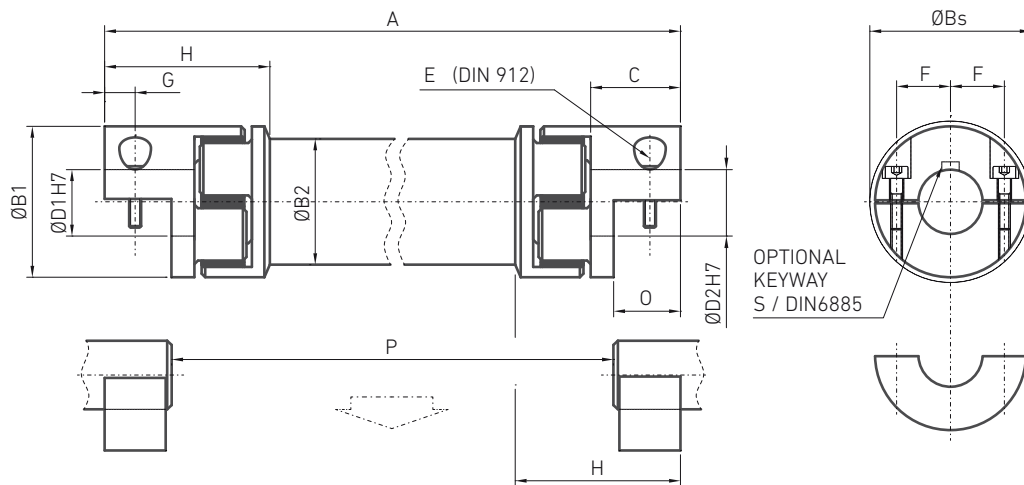


$$\Delta Ka = \text{see table}$$



Max. axial misalignment  
 $\Delta Ka$  (mm)

<b>10</b>	2
<b>20</b>	4
<b>60</b>	4
<b>150</b>	4
<b>300</b>	4
<b>450</b>	4
<b>800</b>	4



SIZE		10		20		60		150		300		450		800	
Elastomer type		A	B	A	B	A	B	A	B	A	B	A	B	A	B
Nominal torque (Nm)	$T_{KN}$	12.5	16	17	21	60	75	160	200	325	405	530	660	950	1,100
Maximum torque (Nm)	$T_{Kmax}$	25	32	34	42	120	150	320	400	650	810	1,060	1,350	1,900	2,150
Total length (mm)	A	95 - 4,000		130 - 4,000		175 - 4,000		200 - 4,000		245 - 4,000		280 - 4,000		320 - 4,000	
Exterior diameter (mm)	$B_1$	32		42		56		66.5		82		102		136.5	
Exterior diameter of the tube (mm)	$B_2$	28		35		50		60		76		90		120	
Exterior diameter with the head of the screw (mm)	$B_s$	32		44.5		57		68		85		105		139	
Pivot length (mm)	C	20		25		40		47		55		65		79	
Interior hole range H7 (mm)	$D_{1/2}$	5-16		8-25		14-32		19-36		19-45		24-60		35-80	
Interior elastomer diameter (mm)	$D_E$	14.2		19.2		26.2		29.2		36.2		46.2		60.5	
Fastening screw (ISO 4762 / DIN912)	E	4xM4		4xM5		4xM6		4xM8		4xM10		4xM12		4xM16	
Fastening torque of the fastening screw (Nm)		4		8		15		35		70		120		290	
Distance between the centres (mm)	F	10.5		15.5		21		24		29		38		50.5	
Screw distance (mm)	G	7.5		8.5		15		17.5		20		25		30	
Length of the sides (mm)	H	34		46		63		73		86		99		125	
Inertia moment by hub ( $10^{-3} \text{ kgm}^2$ )	$J^1/J^2$	0.01		0.02		0.15		0.21		1.02		2.3		17	
Inertia moment of the tube by metre ( $10^{-3} \text{ kgm}^2$ )	$J^3$	0.075		0.183		0.66		1.18		2.48		10.6		38	
Combined dynamic torsional rigidity of the elastomers (Nm/rad)	$C_{TdynE}$	270	825	1,270	2,220	3,970	5,950	6,700	14,650	11,850	20,200	27,700	40,600	41,300	90,000
Torsional rigidity of the tube by metre (Nm/rad)	$C_{TZR}$	321		1,530		6,632		11,810		20,230		65,340		392,800	
Average value of the shaft (mm)	N	26		33		49		57		67		78		94	
Assembly length (mm)	O	16.6		18.6		32		37		42		52		62	

For information about shaft misalignment, torsional rigidity and other details about the elastomer inserts, please see the corresponding chapter.

The maximum torque transferrable by the fastening flange depends on the diameter of the hole.

SIZE	Ø6	Ø8	Ø16	Ø19	Ø25	Ø30	Ø32	Ø35	Ø45	Ø50	Ø55	Ø60	Ø65	Ø70	Ø75	Ø80
10	6	12	32													
20		30	40	50	65											
60			65	120	150	180	200									
150				180	240	270	300	330								
300				300	340	450	520	570	630							
450						630	720	770	900	1,120	1,180	1,350				
800								1,050	1,125	1,200	1,300	1,400	1,450	1,500	1,550	1,600

Possibility to transfer more torque with keyways.

### Placing an order

Model	Size	Total length	Elastomer type	Hole D, H7	Hole D, H7	XX
EZ	60	1,200	A	19	25	Special requirements

For personalised specifications, enter XX in the box at the end of the order for special requirements:

For example: XX= Anodized aluminum, stainless steel, special hole tolerance, DIN / ANSI keyways, s/flat holes, Fine balanced (25,000 rpm), ISO G2.5 fine balanced (30,000 rpm), etc.



DISTRIBUIDOR  
AUTORIZADO

MEX (55) 53 63 23 31  
QRO (442) 1 95 72 60

MTY (81) 83 54 10 18  
ventas@industrialmagza.com

## TRANSMISSION ACCESSORIES

# ELASTOMERS FOR COUPLINGS EK-PK-ES-EZ



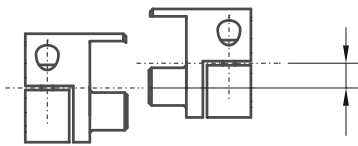
### FUNCTION

The joining element in the couplings (with the exception of the couplings with metallic spring) is the elastomer insert. This transfers the torque with no play or vibrations and defines the specifications of the entire transfer system.

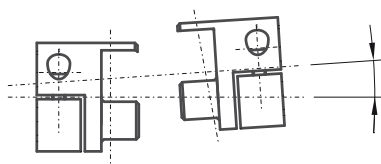
The play is eliminated by means of the elastomer housing at pressure in the hubs. The coupling system can be optimised to the specifications of the most suitable torsion by varying the Shore hardness of the elastomer.

### MISALIGNMENT SHAFTS

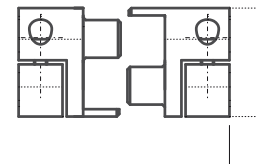
Lateral misalignment



Angular Misalignment



Axial misalignment



Elastomer types	Hardness (Shore)	Colour	Material	Relative absorption ( $\mu$ )	Temperature range	Specifications
<b>A</b>	98 Sh A	Red	TPU	0.4 - 0.5	-30°C up to +100°C	High absorption
<b>B</b>	64 Sh D	Green	TPU	0.3 - 0.45	-30°C up to +120°C	High resistance to torsion
<b>C</b>	80 Sh A	Yellow	TPU	0.3 - 0.4	-30°C up to +100°C	Very high absorption
<b>D*</b>	65 Sh D	Black	TPU	0.3 - 0.45	-30°C up to +70°C	Electrical conductivity
<b>E</b>	64 Sh D	Beige	Hytrel	0.3 - 0.45	-50°C up to +150°C	Resistant to temperature

\* The electrical conductivity of the elastomer material is to prevent electrostatic loads of the coupling system, and to reduce the risk of sparks while working. The ATEX technical data sheet is available on request.

The relative absorption values have been defined at 10 Hz y +20°C

Size		2			5			10			20			60		
Elastomer type		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
Static torsional rigidity (Nm/rad)	$C_T$	50	115	17	150	350	53	260	600	90	1,140	2,500	520	3,290	9,750	1,400
Dynamic torsional rigidity (Nm/rad)	$C_{Tdyn}$	100	230	35	300	700	106	541	1,650	224	2,540	4,440	876	7,940	11,900	2,072
Lateral (mm)	Max. max.	0.08	0.06	0.2	0.08	0.06	0.2	0.1	0.08	0.22	0.1	0.08	0.25	0.12	0.1	0.25
Angular (grades)		1	0.8	1.2	1	0.8	1.2	1	0.8	1.2	1	0.8	1.2	1	0.8	1.2
Axial (mm)		$\pm 1$			$\pm 1$			$\pm 1$			$\pm 2$			$\pm 2$		

Size		150			300			450			800		
Elastomer type		A	B	C	A	B	C	A	B	C	A	B	C
Static torsional rigidity (Nm/rad)	$C_T$	4,970	10,600	2,000	12,400	18,000	3,000	15,100	27,000	4,120	41,300	66,080	10,320
Dynamic torsional rigidity (Nm/rad)	$C_{Tdyn}$	13,400	29,300	3,590	23,700	40,400	6,090	55,400	81,200	11,600	82,600	180,150	28,600
Lateral (mm)	Max. max.	0.15	0.12	0.3	0.18	0.14	0.35	0.2	0.18	0.35	0.25	0.2	0.4
Angular (grades)		1	0.8	1.2	1	0.8	1.2	1	0.8	1.2	1	0.8	1.2
Axial (mm)		$\pm 2$			$\pm 2$			$\pm 2$			$\pm 2$		

Static torsional rigidity at 50%  $T_{KN}$   
Dynamic torsional rigidity at  $T_{KN}$

## TRANSMISSION ACCESSORIES

# ELASTOMERS FOR RA COUPLINGS



Standard spider						
Elastomer type	Hardness (Shore)	Colour	Material	Permanent temperature (°C)		Typical applications
				Continuous temperature	Max. transitory temperature	
<b>A</b>	92 Sh A	yellow	polyurethane	- 40 to + 90	- 50 a + 120	- For any general application: engineering and hydraulics - Applications with medium elasticity
<b>B</b>	95/98 Sh A	red	polyurethane	- 30 a + 90	- 40 a + 120	- Good torque transmission with excellent absorption properties.
<b>C</b>	64 Sh D-F	natural white with green mark	polyurethane	-30 to +110	-30 to +130	- I.C. Motors - High hygroscopy, resistant to hydrolysis. - Critical speeds.
Special spiders on request						
<b>D</b>	94 Sh A-T	yellow with blue mark	polyurethane	- 50 a + 110	- 60 a + 130	- High dynamic load - High hygroscopy - Resistant to hydrolysis.
<b>E</b>	64 Sh D-H	green	Hytrel	- 50 a + 110	- 60 a + 150	- High load transmission, high torsional rigidity - Resistant to chemical agents.
<b>F</b>	Polyamide	-	PA	-50 a +110	-30 a +150	- High torsional rigidity - High ambient temperature - Resistant to chemical agents.
<b>G</b>	PEEK	Light grey	PEEK	up to +180 (ATEX version up to +160)	Up to +250	- High torsional rigidity - Very high ambient temperature - Resistant to chemical agents. - Resistant to hydrolysis.

Size		14			19			24			28		
Elastomer type		A	B	C	A	B	C	A	B	C	A	B	C
Torsion angle ° (kN)	∅	6.4	6.4	4.5	3.2	3.2	2.5	3.2	3.2	2.5	3.2	3.2	2.5
Max. torsion angle ° (kN)	∅	10	10	7	5	5	3.6	5	5	3.6	5	5	3.6
Dynamic torsional rigidity (Nm/rad)	C <sub>dyn</sub>	380	560	760	1,280	2,920	5,350	4,860	9,930	15,110	10,900	26,770	27,520
Absorption power at 30° (kW)	W	-	-	9	4.8	4.8	7.2	6.6	6.6	9.9	8.4	8.4	12.6

Size		38			42			48			55		
Elastomer type		A	B	C	A	B	C	A	B	C	A	B	C
Torsion angle ° (kN)	∅	3.2	3.2	2.5	3.2	3.2	2.5	3.2	3.2	2.5	3.2	3.2	2.5
Max. torsion angle ° (kN)	∅	5	5	3.6	5	5	3.6	5	5	3.6	5	5	3.6
Dynamic torsional rigidity (Nm/rad)	C <sub>dyn</sub>	21,050	48,570	70,150	23,740	54,500	79,860	36,700	652,900	95,510	50,720	94,970	107,920
Absorption power at 30° (kW)	W	10.2	10.2	15.3	12	12	18	13.8	13.8	20.7	15.6	15.6	23.4

Size		65			75			90		
Elastomer type		A	B	C	A	B	C	A	B	C
Torsion angle ° (kN)	∅	3.2	3.2	2.5	3.2	3.2	2.5	3.2	3.2	2.5
Max. torsion angle ° (kN)	∅	5	5	3.6	5	5	3.6	5	5	3.6
Dynamic torsional rigidity (Nm/rad)	C <sub>dyn</sub>	97,130	129,510	151,090	113,320	197,500	248,220	190,090	312,200	674,520
Absorption power at 30° (kW)	W	18	18	27	21.6	21.6	32.4	30	30	45

## TRANSMISSION ACCESSORIES

# GX TRANSMISSION SHAFT



### STEEL TUBE WITH PLASTIC FLECTOR

10 – 550 Nm

### FEATURES

- ... Simple, compact and plain.
- ... Low weight and inertia.
- ... High performance, allows high speeds, large input shafts and tamper proof.
- ... The torque is transferred completely free from play.
- ... Maintenance-free.
- ... Efficient evacuation of the heat generated in Contact with the air.
- ... Easy rotation and disassembly, axial displacement is not necessary.
- ... Undesired forces on the shafts or bearings are not generated in the torque transfer.

### MATERIAL

- ... Hubs: Bronze plated steel, special material: Zinc-plated steel.
- ... Tube: Steel.
- ... Special tube: Zinc-plated steel.
- ... Elastomer: Hard plastic compound resistant to stress.

### DESIGN

It is a simple transmission system made up of a tube, joined to two

precision-machined terminals, by means of rigid torsional plastic flectors. This joint is made by combining axial and radial fastening screws guaranteeing high fastening. The plastic flector is very rigid under torsion but with elasticity in the axial and angular sense to absorb misalignments. Can also support temperatures over 150°C.

### INSTALLATION

The total length (A) is the distance between the sides of the shafts to be joined. The total length of the bar is selected by the distance (A) plus 2x the size of the terminals (D)

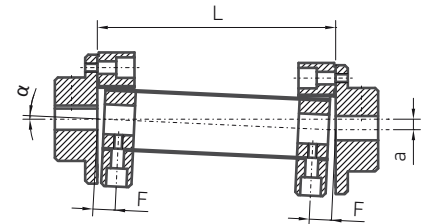
### ANGULAR MISALIGNMENT

$$a = \tan \alpha \times (L - 2 \times F)$$

a = Radial misalignment

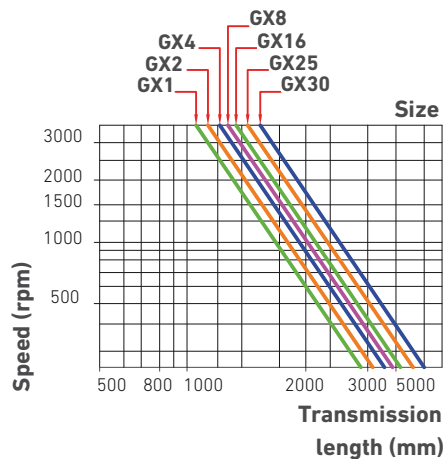
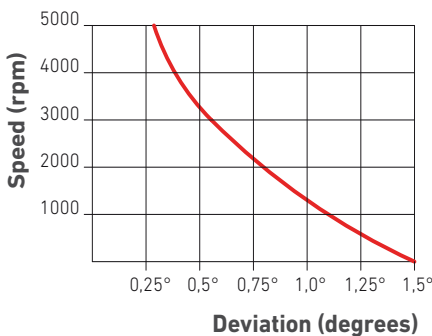
L = Central chapter length

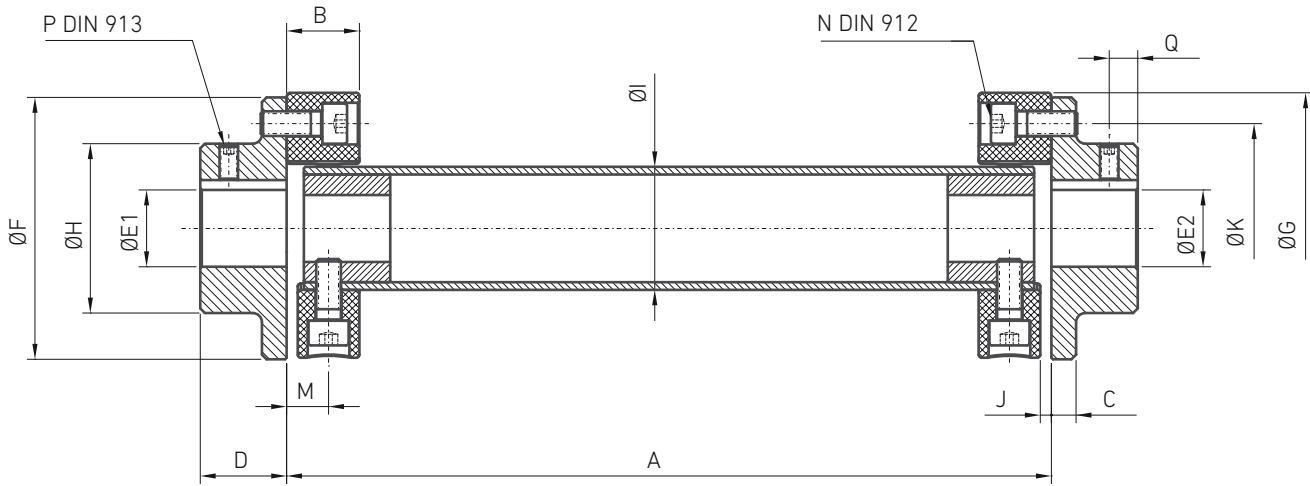
F = Size "F" of table 1



### GX SERIES TRANSMISSION SHAFT

The GX series elastic transmission shafts are suitable for connecting the drive shafts of several screw jacks or HM actuators together, or with other drive units. They absorb noise, vibrations, knocks, and allow angular misalignments with no need for maintenance. Its central part can be removed in radial direction without axial displacement of the adjoining parts. In general, auxiliary supports are not necessary except on very large gearboxes.





* STUD SIZE	
Ø E <sub>1-2</sub>	P
- 10	M3
> 10 - 12	M4
> 12 - 30	M5
> 30 - 58	M8
> 58 - 95	M10
> 95 - 100	M12

SIZE		1	2	4	8	16	25	30
Nominal torque (Nm)	T <sub>KN</sub>	10	30	60	120	240	370	550
Maximum torque (Nm)	T <sub>Kmax</sub>	25	60	120	280	560	800	1,400
Maximum revolutions (min <sup>-1</sup> )	n <sub>max</sub>	10,000	10,000	8,000	7,000	6,000	5,000	4,500
Total length (mm)	A	50-6,000	60-6,000	60-6,000	85-6,000	100-6,000	110-6,000	135-6,000
Flector width (mm)	B	18	24	25	30	35	40	50
Terminal plate width (mm)	C	7	8	8	10	12	14	16
Terminal width (mm)	D	24	28	30	42	50	55	66
Interior hole range H7 (mm)	E <sub>1</sub> /E <sub>2</sub>	8-25	12-38	15-45	18-55	20-70	20-85	25-100
Exterior diameter of the terminal (mm)	F	56	85	100	120	150	170	200
Exterior diameter of the flector (mm)	G	57	88	100	125	155	175	205
Terminal pivot length (mm)	H	36	55	65	80	100	115	140
Diameter of the tube (mm)	I	30	40	45	60	70	85	100
Clearance between the terminal and flector (mm)	J	1	4	2.5	3	3	3	5
Flector-terminal fastening screw positions (mm)	K	44/2x180°	68/2x180°	80/3x120°	100/3x120°	125/3x120°	140/3x120°	165/3x120°
Clearance between the terminal and flector (mm)	L	1	4	2.5	3	3	3	5
Flector-tube fastening screw position (mm)	M	12	14	14.5	17	21	23	30
Fastening screw metric	N	M6	M8	M8	M10	M12	M14	M16
Stud	P	*Depends on the diameter of shaft E						
Stud position	Q	8.5	10	10	15	18	20	25

For torque transmission of up to 110 Nm two flectors in tandem can be fitted. To do this, please Contact NIASA.

### Placing an order

Model	Size	Total length	Hole E <sub>1</sub> H7	Hole E <sub>2</sub> H7	XX
GX	1	1,200	19	25	Special requirements

For personalised specifications, enter XX in the box at the end of the order for special requirements:

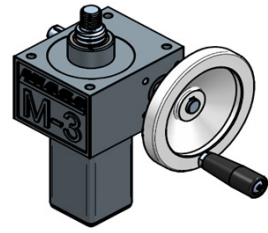
For example: XX= Zinc-plated steel, stainless steel, special hole tolerance, DIN / ANSI keyways, s/flat holes, double flector, etc.



# Drive accessories

## ACCESORIES

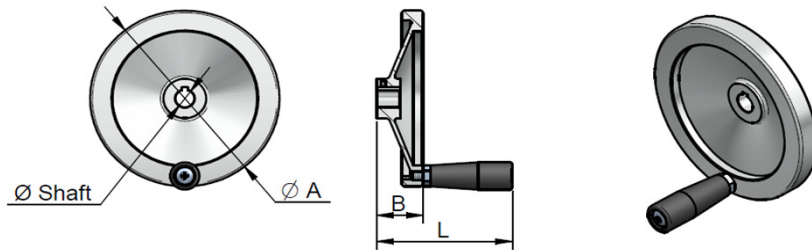
### HANDWHEEL VE



#### DIMENSIONS AND WEIGHTS

Ø Shaft (mm)	ØA (mm)	B (mm)	L (mm)	Weight (kg)	ØA (mm)	B (mm)	L (mm)	Weight (kg)	ØA (mm)	B (mm)	L (mm)	Weight (kg)
10	80	26	75	1,23	100	30	79	1,31				
11	80	26	75	1,23	100	30	76	1,31				
14	125	33	102	2,31	140	36	105	2,36	160	39	108	2,57
16	125	33	102	2,30	140	36	105	2,35	160	39	108	2,56
19	160	39	108	2,48	200	45	126	5,24				
20	160	39	108	2,48	200	45	126	5,24				
24	250	51	140	6,27								
25	250	51	140	6,27								

It includes set screw



VE - 080 - 10 - IN  
 Ø A Shaft Ø Application  
 IN Indoor<sup>1)</sup>  
 OU Outdoor<sup>2)</sup>  
 SP Special<sup>3)</sup>

#### MATERIALS AND SURFACE TREATMENTS<sup>3)</sup>

<b>Wheel :</b>	<u>Indoor applications<sup>1)</sup></u> Aluminium	<u>Outdoor applications<sup>2)</sup></u> Aluminium
<b>Handle:</b>	Polyamide/Burnished steel	Polyamide/Stainless steel
<b>Set screw:</b>	Black oxide coating	Stainless steel

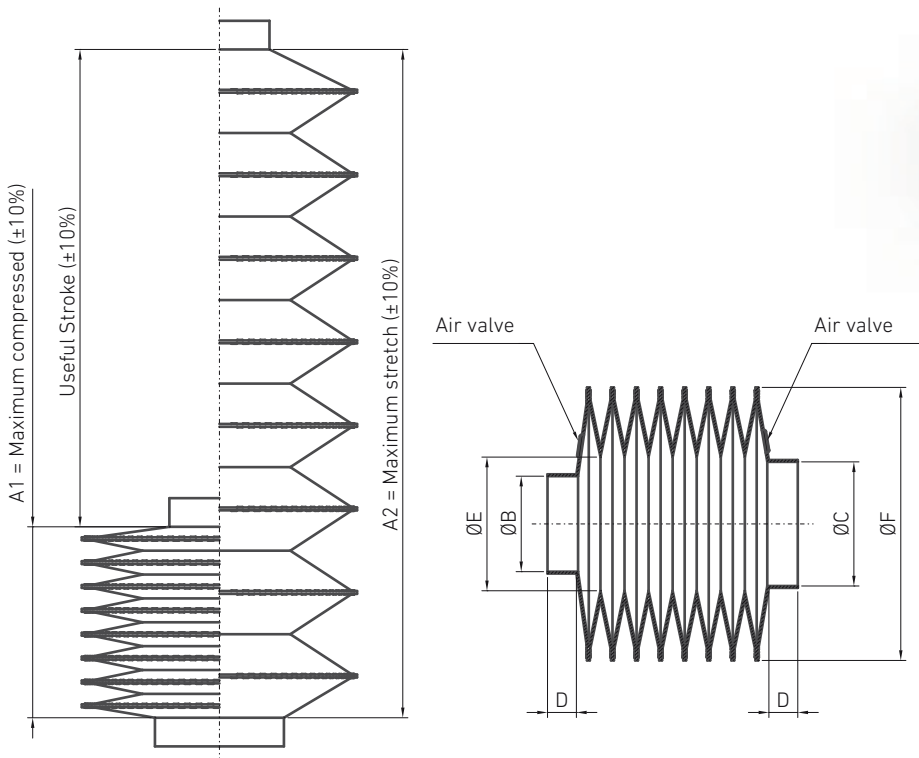
<sup>1)</sup> Approx. C2-Medium durability (ISO 12944).

<sup>2)</sup> Approx. C3-Medium durability (ISO 12944).

<sup>3)</sup> Special coatings on request, until C5 (ISO 12944)

## PROTECTION ACCESSORIES

# FB CIRCULAR FABRIC SPRING



		General sizes in mm						
Stroke up to	A1	A2	B	C	D	E	F	
	Maximum covered	Maximum stretched	Ø Neck	Ø Neck	Neck length	Ø Interior	Ø Exterior	
<b>M1-N-W</b>	350	50	400	48	29	15	65	105
	795	105	900					
<b>M2-N-W</b>	350	50	400	61	29	15	75	115
	795	105	900					
<b>M3-N-W</b>	540	60	600	46	46	20	80	130
	1,355	145	1,500					
<b>M4-N-W</b>	1,990	210	2,200	60	60	20	90	140
	540	60	600					
<b>M5-N-W</b>	1,355	145	1,500	85	85	20	100	160
	1,990	210	2,200					
<b>J1-N-W</b>	540	60	600	90	90	20	110	180
	1,355	145	1,500					
<b>J3-N-W</b>	1,990	210	2,200	120	120	20	130	210
	540	60	600					
<b>J4-N-W</b>	1,355	145	1,500	145	145	20	160	240
	1,990	210	2,200					
<b>J5-N-W</b>	540	60	600	170	170	20	180	280
	1,355	145	1,500					
	1,990	210	2,200					

... Material: Polyester fabric stitched and thermo-sealed with PVC on both sides.  
 ... Note: For longer strokes and other materials, please ask NIASA.

## PROTECTION ACCESSORIES

# SF SPIRAL METALLIC SPRING PROTECTOR

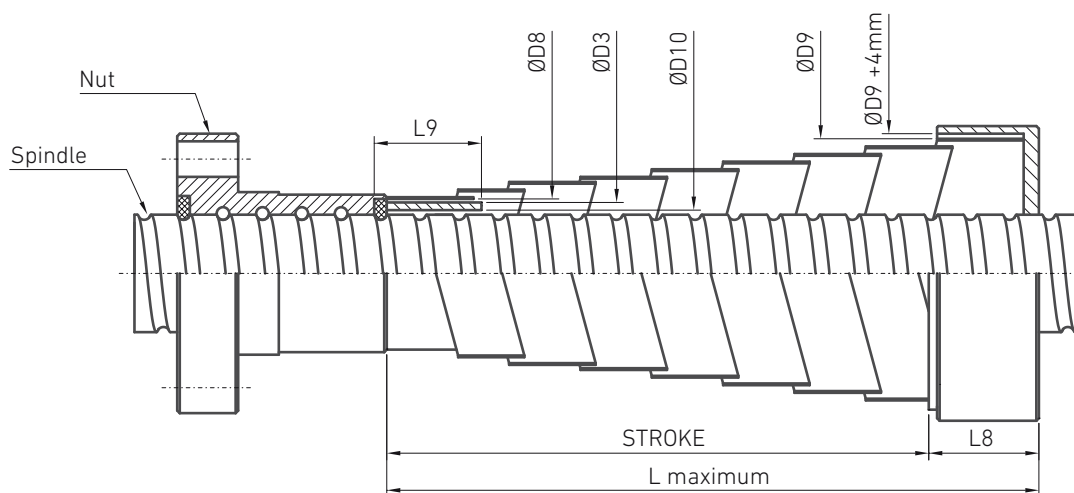


KGS 1605 - KGS1610			
D <sub>3</sub> = 22 mm			
D <sub>10</sub> = 16.8 mm			
L <sub>y</sub> = 20 mm			
Size D <sub>g</sub> /Stroke/L <sub>g</sub>	LV <sup>(1)</sup>	LH <sup>(2)</sup>	ØD <sub>g</sub>
<b>SF 25/100/20</b>	100	60	35
<b>SF 25/150/20</b>	150	110	38
<b>SF 25/200/20</b>	200	160	40
<b>SF 25/250/20</b>	250	210	44
<b>SF 25/300/30</b>	300	240	43
<b>SF 25/350/30</b>	350	290	46
<b>SF 25/400/30</b>	400	340	49
<b>SF 25/450/40</b>	450	370	48
<b>SF 25/500/40</b>	500	420	51

KGS 2005 - KGS 2020 (KGS2505)			
D <sub>3</sub> = 26 (31) mm			
D <sub>10</sub> = 20.8 (25.8) mm			
L <sub>y</sub> = 28 (28) mm			
Size D <sub>g</sub> /Stroke/L <sub>g</sub>	LV <sup>(1)</sup>	LH <sup>(2)</sup>	ØD <sub>g</sub>
<b>SF 30/150/30</b>	150	90	39
<b>SF 30/250/30</b>	250	190	44
<b>SF 30/350/30</b>	350	290	49
<b>SF 30/450/40</b>	450	370	53
<b>SF 30/550/40</b>	550	470	58
<b>SF 30/650/50</b>	650	550	55
<b>SF 30/750/50</b>	750	650	59

KGS 3205 - KGS 3240			
D <sub>3</sub> = 38 mm			
D <sub>10</sub> = 33 mm			
L <sub>y</sub> = 35 mm			
Size D <sub>g</sub> /Stroke/L <sub>g</sub>	LV <sup>(1)</sup>	LH <sup>(2)</sup>	ØD <sub>g</sub>
<b>SF 40/150/30</b>	150	90	51
<b>SF 40/250/30</b>	250	190	56
<b>SF 40/350/30</b>	350	290	60
<b>SF 40/450/40</b>	450	370	63
<b>SF 40/550/40</b>	550	470	68
<b>SF 40/350/50</b>	350	250	55
<b>SF 40/450/50</b>	450	350	58
<b>SF 40/550/50</b>	550	450	61
<b>SF 40/650/50</b>	650	550	65
<b>SF 40/750/50</b>	750	650	69
<b>SF 40/450/60</b>	450	330	55
<b>SF 40/550/60</b>	550	430	58
<b>SF 40/650/60</b>	650	530	62
<b>SF 40/750/60</b>	750	630	66
<b>SF 40/900/60</b>	900	780	70
<b>SF 40/650/75</b>	650	500	62
<b>SF 40/750/75</b>	750	600	66
<b>SF 40/900/75</b>	900	750	72
<b>SF 40/1100/75</b>	1,100	950	78
<b>SF 40/1300/75</b>	1,300	1,150	84
<b>SF 40/1500/75</b>	1,500	-	90
<b>SF 40/1000/100</b>	1,000	800	66
<b>SF 40/1200/100</b>	1,200	1,000	70
<b>SF 40/1500/100</b>	1,500	1,300	78
<b>SF 40/1800/100</b>	1,800	-	82
<b>SF 40/1800/120</b>	1,800	1,560	82
<b>SF 40/2000/120</b>	2,000	1,760	86
<b>SF 40/2200/120</b>	2,200	-	91

KGS 4005 - KGS 3210			
D <sub>3</sub> = 46 (44) mm			
D <sub>10</sub> = 41 (34) mm			
L <sub>y</sub> = 45 (45) mm			
Size D <sub>g</sub> /Stroke/L <sub>g</sub>	LV <sup>(1)</sup>	LH <sup>(2)</sup>	ØD <sub>g</sub>
<b>SF 50/150/30</b>	150	90	63
<b>SF 50/250/30</b>	250	190	68
<b>SF 50/250/50</b>	250	150	62
<b>SF 50/350/50</b>	350	250	66
<b>SF 50/450/50</b>	450	350	70
<b>SF 50/550/50</b>	550	450	73
<b>SF 50/550/60</b>	550	430	68
<b>SF 50/650/60</b>	650	530	72
<b>SF 50/750/60</b>	750	630	76
<b>SF 50/750/75</b>	750	600	78
<b>SF 50/900/75</b>	900	750	84
<b>SF 50/1100/75</b>	1,100	950	90
<b>SF 50/1100/100</b>	1,100	900	75
<b>SF 50/1300/100</b>	1,300	1,100	79
<b>SF 50/1500/100</b>	1,500	1,300	83
<b>SF 50/1700/120</b>	1,700	1,460	91
<b>SF 50/1800/120</b>	1,800	-	94
<b>SF 50/1900/120</b>	1,900	1,660	95
<b>SF 50/2100/120</b>	2,100	1,860	100
<b>SF 50/2300/120</b>	2,300	-	105
<b>SF 50/2500/120</b>	2,500	-	111
<b>SF 50/2800/120</b>	2,800	-	118
<b>SF 50/2800/150</b>	2,800	2,500	118
<b>SF 50/3000/150</b>	3,000	-	123
<b>SF 50/3000/180</b>	3,000	2,640	123
<b>SF 50/3250/180</b>	3,250	-	128
<b>SF 50/3250/200</b>	3,250	2,850	128
<b>SF 50/3500/200</b>	3,500	-	134



KGS 4010 - KGS 4040			
D <sub>3</sub> = 52 mm			
D <sub>10</sub> = 41 mm			
L <sub>y</sub> = 50 mm			
Size D <sub>g</sub> /Stroke/L <sub>g</sub>	LV <sup>(1)</sup>	LH <sup>(2)</sup>	ØD <sub>9</sub>
<b>SF 55/150/30</b>	150	90	68
<b>SF 55/250/30</b>	250	190	73
<b>SF 55/250/50</b>	250	150	66
<b>SF 55/350/50</b>	350	250	71
<b>SF 55/450/50</b>	450	350	74
<b>SF 55/550/50</b>	550	450	77
<b>SF 55/550/60</b>	550	430	75
<b>SF 55/650/60</b>	650	530	79
<b>SF 55/750/60</b>	750	630	83
<b>SF 55/750/75</b>	750	600	83
<b>SF 55/900/75</b>	900	750	89
<b>SF 55/1100/75</b>	1,100	950	94
<b>SF 55/1100/100</b>	1,100	900	83
<b>SF 55/1300/100</b>	1,300	1,100	87
<b>SF 55/1500/100</b>	1,500	1,300	94
<b>SF 55/1800/100</b>	1,800	-	102
<b>SF 55/1700/120</b>	1,700	1,460	96
<b>SF 55/1900/120</b>	1,900	1,660	100
<b>SF 55/2100/120</b>	2,100	1,860	105
<b>SF 55/2300/120</b>	2,300	2,060	110
<b>SF 55/2500/120</b>	2,500	-	116
<b>SF 55/2800/120</b>	2,800	-	123
<b>SF 55/2800/150</b>	2,800	2,500	121
<b>SF 55/3000/150</b>	3,000	-	126
<b>SF 55/3000/180</b>	3,000	2,640	126
<b>SF 55/3250/180</b>	3,250	2,850	130
<b>SF 55/3250/200</b>	3,250	-	130
<b>SF 55/3500/200</b>	3,250	-	137

KGS 5010 - KGS 5020			
D <sub>3</sub> = 62 mm			
D <sub>10</sub> = 51.2 mm			
L <sub>y</sub> = 55 mm			
Size D <sub>g</sub> /Stroke/L <sub>g</sub>	LV <sup>(1)</sup>	LH <sup>(2)</sup>	ØD <sub>9</sub>
<b>SF 65/250/30</b>	150	90	68
<b>SF 65/250/50</b>	250	190	73
<b>SF 65/350/50</b>	250	150	66
<b>SF 65/450/50</b>	350	250	71
<b>SF 65/550/60</b>	450	350	74
<b>SF 65/650/60</b>	550	450	77
<b>SF 65/750/60</b>	550	430	75
<b>SF 65/750/75</b>	650	530	79
<b>SF 65/900/75</b>	750	630	83
<b>SF 65/1100/75</b>	750	600	83
<b>SF 65/1100/100</b>	900	750	89
<b>SF 65/1300/100</b>	1,100	950	94
<b>SF 65/1500/100</b>	1,100	900	83
<b>SF 65/1700/120</b>	1,300	1,100	87
<b>SF 65/1800/100</b>	1,500	1,300	94
<b>SF 65/1900/120</b>	1,800	-	102
<b>SF 65/2100/120</b>	1,700	1,460	96
<b>SF 65/2300/120</b>	1,900	1,660	100
<b>SF 65/2500/100</b>	2,100	1,860	105
<b>SF 65/2800/120</b>	2,300	2,060	110
	2,500	-	116
<b>SF 65/3000/120</b>	2,800	-	123
<b>SF 65/3000/180</b>	2,800	2,500	121
<b>SF 65/3250/180</b>	3,000	-	126
<b>SF 65/3250/200</b>	3,000	2,640	126
<b>SF 65/3500/200</b>	3,250	2,850	130

KGS 6310			
D <sub>3</sub> = 74 mm			
D <sub>10</sub> = 63.2 mm			
L <sub>y</sub> = 65 mm			
Size D <sub>g</sub> /Stroke/L <sub>g</sub>	LV <sup>(1)</sup>	LH <sup>(2)</sup>	ØD <sub>9</sub>
<b>SF 75/250/30</b>	250	190	99
<b>SF 75/350/50</b>	350	250	94
<b>SF 75/450/50</b>	450	350	101
<b>SF 75/550/60</b>	550	430	99
<b>SF 75/650/60</b>	650	530	103
<b>SF 75/750/60</b>	750	630	108
<b>SF 75/650/75</b>	650	500	99
<b>SF 75/900/75</b>	-	750	111
<b>SF 75/1100/100</b>	1,100	-	108
<b>SF 75/1300/100</b>	1,300	1,100	112
<b>SF 75/1500/120</b>	1,500	1,260	115
<b>SF 75/1700/100</b>	1,700	-	126
<b>SF 75/1800/120</b>	1,800	1,560	122
<b>SF 75/2000/120</b>	2,000	1,760	127
<b>SF 75/2200/120</b>	2,200	-	132
<b>SF 75/2000/100</b>	2,000	2,100	135
<b>SF 75/2400/120</b>	2,400	-	141
<b>SF 75/2800/150</b>	2,800	2,440	145
<b>SF 75/2800/120</b>	2,800	-	142
<b>SF 75/3000/180</b>	3,000	-	148
<b>SF 75/3250/180</b>	3,250	-	156
<b>SF 75/3250/200</b>	3,250	2,850	148
<b>SF 75/3500/200</b>	3,500	-	158

<sup>(1)</sup> LV = Vertical installation.

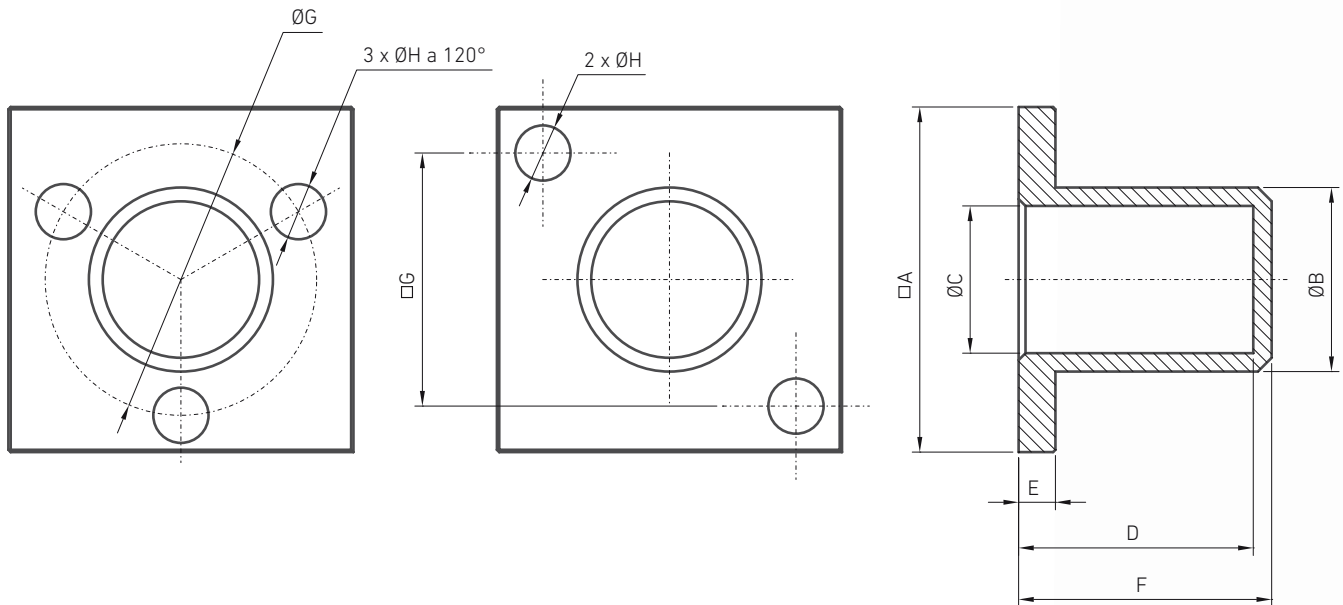
<sup>(2)</sup> LH = Horizontal installation.

**PROTECTION ACCESSORIES**

**PR WORM GEAR PROTECTOR**



	Applicable to	
<b>PR-1</b>	M1	FM1/AM1
<b>PR-2</b>	M2	FM2/AM2
<b>PR-3</b>	M3	FM3/AM3
<b>PR-4</b>	M4	FM4/AM4
<b>PR-5</b>	M5-J1	FM5-FJ1
<b>PR-6</b>	J3	FJ3
<b>PR-7</b>	J4	
<b>PR-8</b>	J5	



	□A	ØB	ØC	D	E	F	G	ØH
<b>PR-1</b>	47	30	21	27	8	31	□32	7
<b>PR-2</b>	50	28	22	29	5	32	□35	6.5
<b>PR-3</b>	63	38	28	47	8	50	□44	10.5
<b>PR-4</b>	75	40	32	51	8	55	□55	12
<b>PR-5</b>	82	50	40	70	8	75	□60	14
<b>PR-6</b>	100	55	45	72	10	77	Ø80	14
<b>PR-7</b>	127	60	50	70	10	75	Ø100	18
<b>PR-8</b>	140	70	60	105	10	110	Ø115	18

... Material: POM (Polyoxymethylene)



**DETECTION ACCESSORIES**

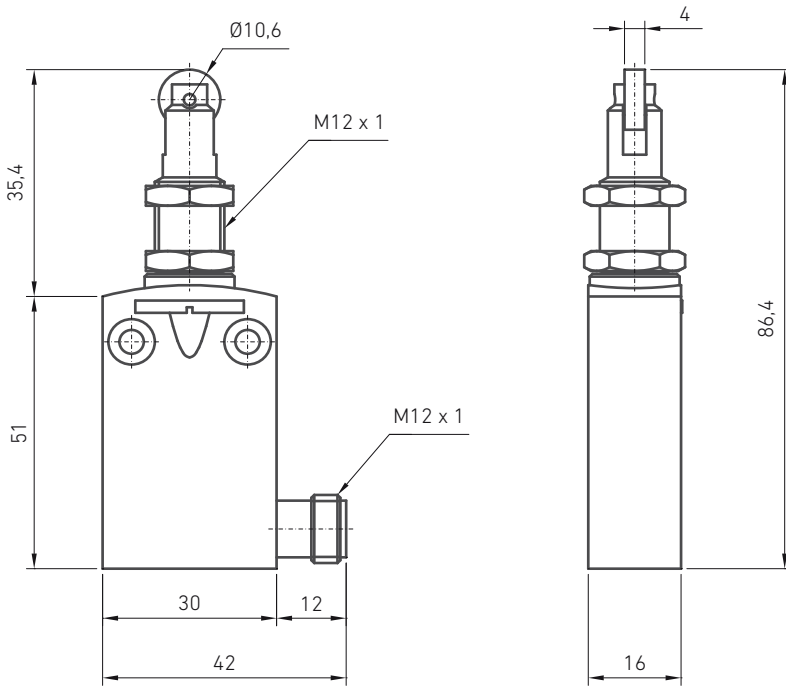
**FCM MECHANICAL LIMIT SWITCH**



Applicable to

M1-N-W
M2-N-W
M3-N-W
M4-N-W
M5-N-W
J1-N-W
J3-N-W
J4-N-W
J5-N-W

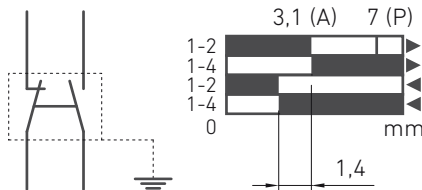
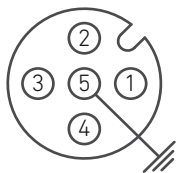
**FCM with M12x1 connector**



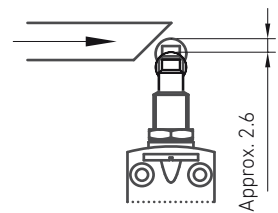
**M12x1 connector specifications**

5 Pin model  
Snap switch PNP\_NC + NA bipolar input

- 4 A - 60 V
- 1-2 = NC
- 3-4 = NA
- 5 =



**Roller-type switching end**



**DETECTION ACCESSORIES**

**FCI INDUCTIVE LIMIT SWITCH**



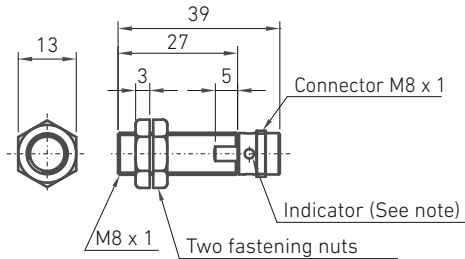
**FCI M8x1 with  
M8x1 connector**

Applicable to			
M1-N-W	F16	FM1	FHM1
M2-N-W	F20	FM2	FHM2
M3-N-W	F30	FM3	FHM3
	F40	FM4	FHM4
	F45	FM5	FHM5
	F50	FJ1	FHJ1
		FJ3	FHJ3

**FCI M12x1 with  
M12x1 connector**

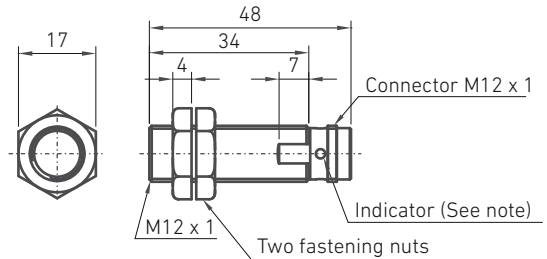
M4-N-W			
M5-N-W			
J1-N-W			
J3-N-W			
J4-N-W			
J5-N-W			

**M8x1 inductive detector with M8x1 connector**



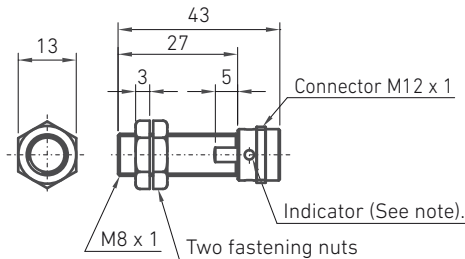
Note: Operation indicator (yellow LED, 4x90°)

**Inductive detector M12x1 with connector M12x1**



Note: Operation indicator (yellow LED, 4x90°)

**Inductive detector M8x1 with connector M12x1 (optional)**

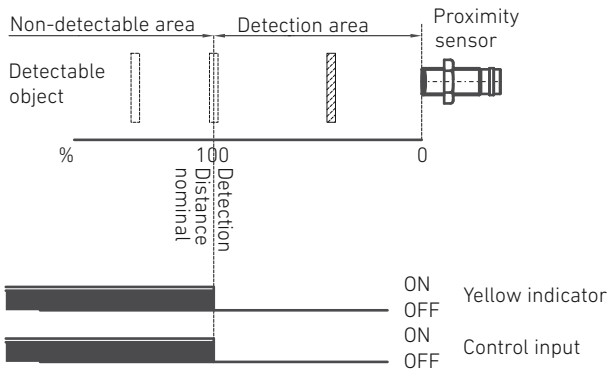


Note: Operation indicator (yellow LED, 4x90°)

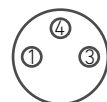
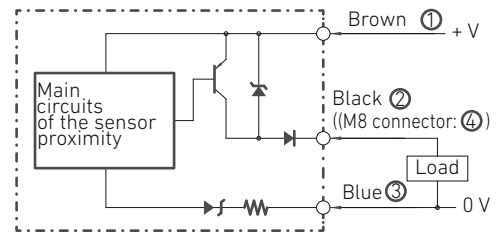
**Connector specifications**

CC Model 3-wire  
PNP-NC input

**Operating diagram**



**Input circuit**



M8 connector

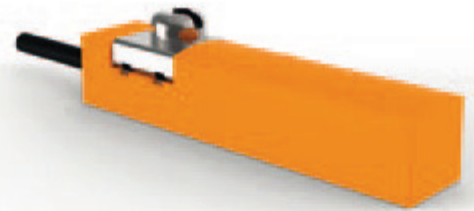


M12 connector  
Pin 2 is not used



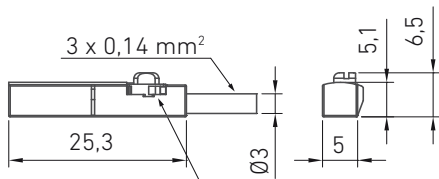
**DETECTION ACCESSORIES**

**FCG MAGNETIC SENSOR**



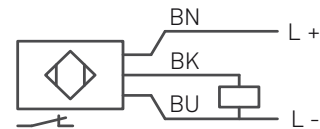
**T5 PNP NC  
magnetic sensor**

Applicable to		
A16	AM1	AHM1
A20	AM2	AHM2
A30	AM3	AHM3
A40	AM4	AHM4

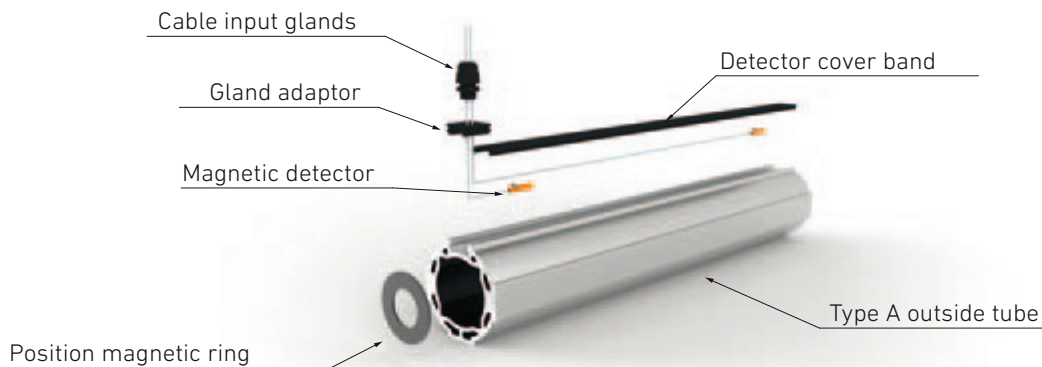
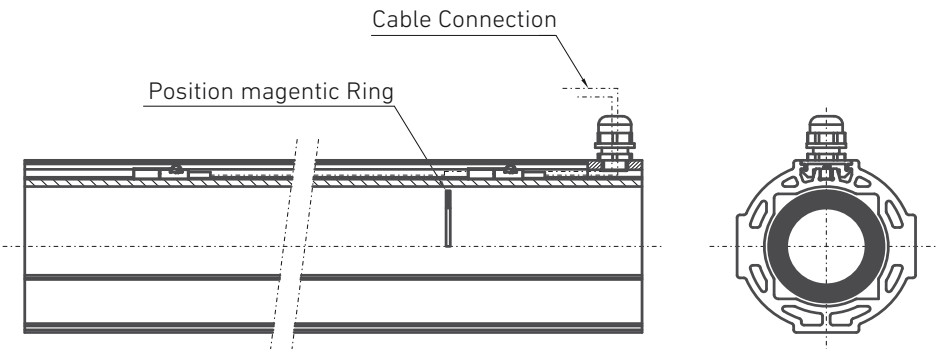


The magnetic detector is fixed to the aluminium profile groove in any position thanks to the eccentric system

Connecting:



Power supply: PNP DC  
 Power supply voltage: 10...30 V DC  
 Consumption: < 10 mA  
 Input function: Normally closed  
 Input current: 100 mA  
 Protection class: III  
 Protection level: IP65 / IP67  
 Ambient temperature: 25 to +85°C  
 Switching state: Yellow LED



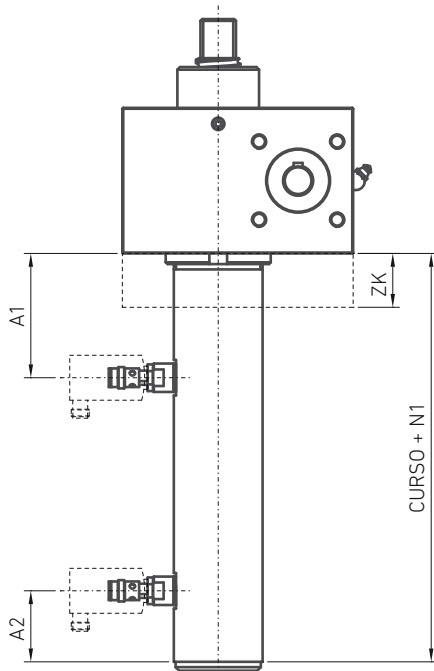
## DETECTION ACCESSORIES

# FCM/FCI ASSEMBLY POSITION

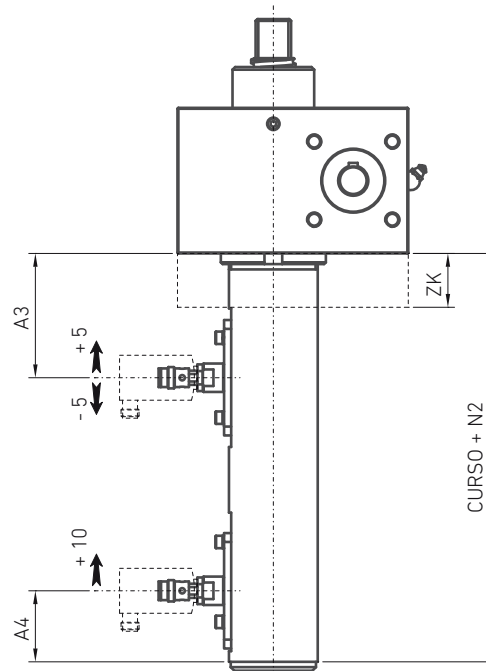
### N CONFIGURATION SCREW JACKS

	Applicable to
<b>FCI M8x1 with M8x1 connector</b>	M1-N-W
	M2-N-W
	M3-N-W
	M4-N-W
	M5-N-W
<b>FCI M12x1 with M12x1 connector</b>	J1-N-W
	J3-N-W
	J4-N-W
	J5-N-W

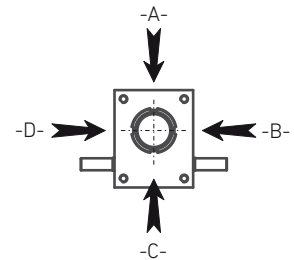
The mechanical limit is the same for all sizes (see page 306.)



FCM/FCI - Fijo



FCM/FCI - Regulable



**Assembly position**  
Mounting the ZK series flanges on the back of the box cancels the assembly positions A and C of the assembly on the unit.

	FCM/FCI fixed					FCM/FCI adjustable					ZK
	A1		A2	N1		A3		A4	N2		
	No ZK	With ZK		No ZK	With ZK	No ZK	With ZK		No ZK	With ZK	
<b>M1</b>	25	35	25	65	75	50	65	35	100	115	20
<b>M2</b>	25	40	25	65	80	50	70	35	100	120	25
<b>M3</b>	25	45	25	65	85	50	75	35	100	125	30
<b>M4</b>	40	65	40	100	125	60	85	40	120	145	40
<b>M5</b>	40	75	40	105	140	60	100	40	125	165	50
<b>J1</b>	40	85	40	105	150	60	110	40	125	175	60
<b>J3</b>	40	105	40	105	170	60	130	40	125	195	80
<b>J4</b>	40	115	40	105	180	60	140	40	125	205	90
<b>J5</b>	40	140	40	105	205	60	160	40	125	225	100

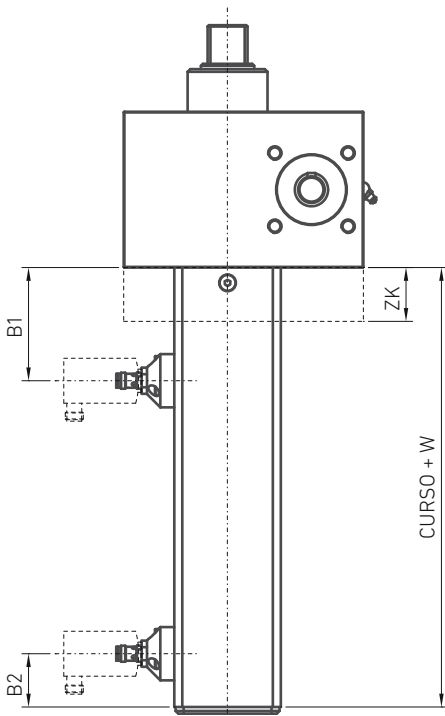
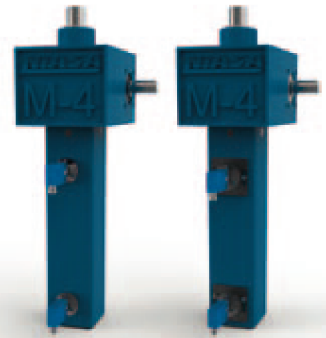
**DETECTION ACCESSORIES**

**FCM/FCI ASSEMBLY POSITION**

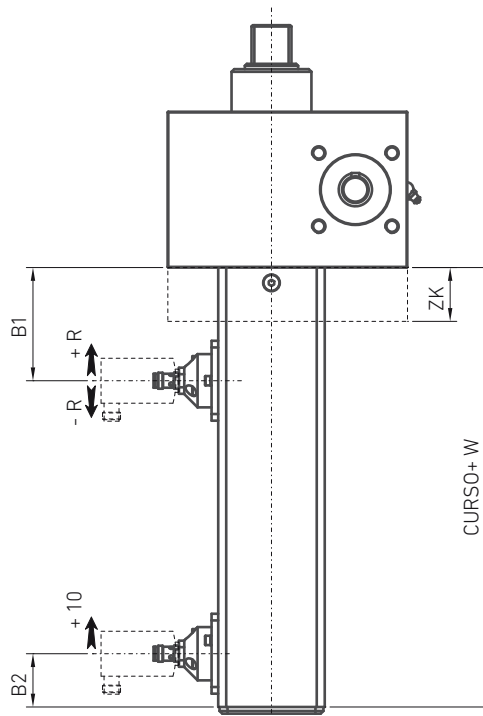
**W CONFIGURATION SCREW JACKS**

	Applicable to
<b>FCI M8x1 with M8x1 connector</b>	M1-N-W
	M2-N-W
	M3-N-W
	M4-N-W
	M5-N-W
<b>FCI M12x1 with M12x1 connector</b>	J1-N-W
	J3-N-W
	J4-N-W
	J5-N-W

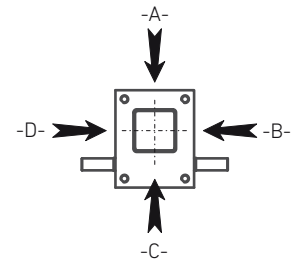
The mechanical limit is the same for all sizes (see page 306.)



FCM/FCI - Fijo



FCM/FCI - Regulable



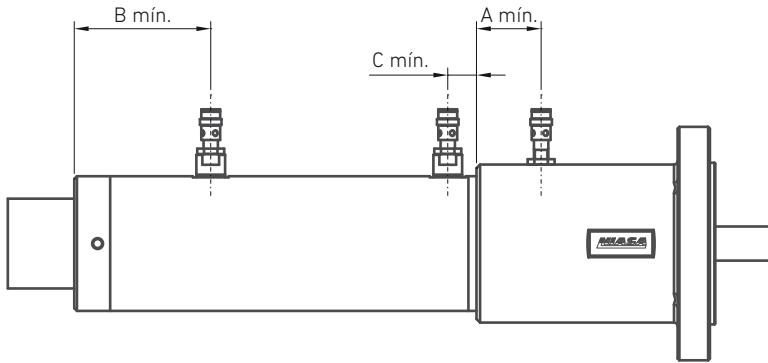
**Assembly position**  
Mounting the ZK series flanges on the back of the box cancels the assembly positions A and C of the assembly on the unit.

Unit	B1		B2	R	W		ZK
	No ZK	With ZK			No ZK	With ZK	
<b>M1</b>	40	60	30	± 5	85	105	20
<b>M2</b>	40	65	30	± 5	90	115	25
<b>M3</b>	40	70	30	± 5	90	120	30
<b>M4</b>	50	90	40	± 10	115	155	40
<b>M5</b>	50	100	40	± 10	120	170	50
<b>J1</b>	60	110	40	± 10	135	185	60
<b>J3</b>	60	130	40	± 10	140	210	80
<b>J4</b>	70	140	40	± 10	155	225	90
<b>J5</b>	70	150	40	± 10	160	240	100

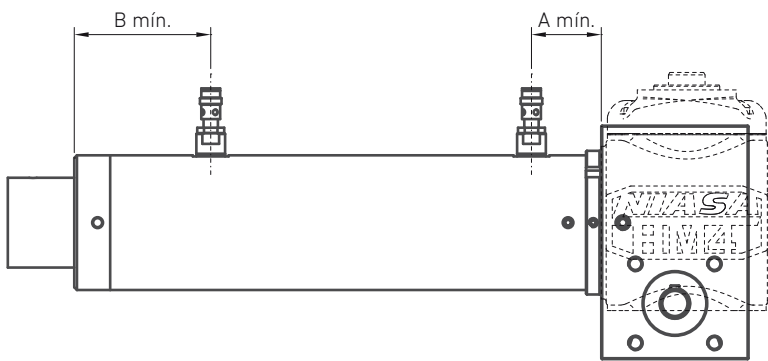
## DETECTION ACCESSORIES

# FCI/FCM ASSEMBLY POSITION

### F LINEAR ACTUATORS



### FHM LINEAR ACTUATORS



Notes:

- Elevations not corresponding with the immobilised stem in rotation.
- At the customer's request, the sensor "B" can have  $\pm 5$  mm adjustment.

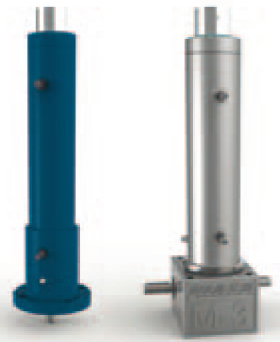
### F SERIES LINEAR ACTUATORS

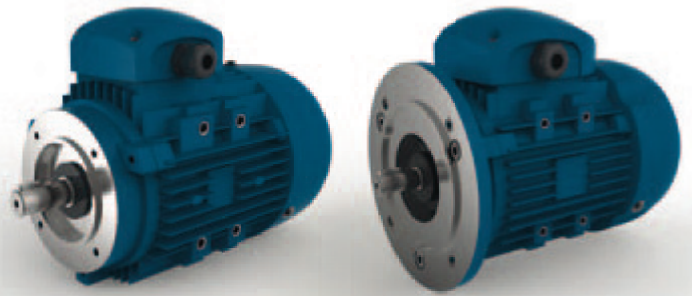
Unit	Screw type	Sizes (mm)			Sensor type
		A	B	C	
<b>F16</b>	Tr	-	69	15	M8x1
	KGS	-	80.5	5.5	M12x1
<b>F20</b>	Tr	-	61	12	M8x1
	KGS	10	-	-	-
<b>F30</b>	Tr	-	76 / 71*	11.5	M8x1
	KGS	36 / 41*	-	-	-
<b>F40</b>	Tr	-	71	36	M8x1
	KGS	34	-	-	-
<b>F45</b>	Tr	-	91	31	M8x1
	KGS	21.5	-	-	-
<b>F50</b>	Tr	-	91	36	M8x1
	KGS	54	-	-	-

(\*) In the case that a KGM 3220 nut is installed on the unit.

### FM/FHM SERIES LINEAR ACTUATORS

Unit	Screw type	Sizes (mm)			Sensor type
		A	B		
<b>FM1 / FHM1</b>	Tr	50.5	69		M8x1
	KGS	41	80.5		M12x1
<b>FM2 / FHM2</b>	Tr	62.5	61		M8x1
	KGS	40.5			
<b>FM3 / FHM3</b>	Tr	101	76 / 71 <sup>(*)</sup>		M8x1
	KGS	53.5/48.5*			
<b>FM4 / FHM4</b>	Tr	142.5	71		M8x1
	KGS	72.5			
<b>FM5 / FHM5</b>	Tr	166	91		M8x1
	KGS	72.5			
<b>FJ1 / FHJ1</b>	Tr	180	91		M8x1
	KGS	84			
<b>FJ3 / FHJ3</b>	Tr	184	104		M8x1
	KGS	94			



**DRIVE ACCESSORIES****STANDARD MOTORS  
(ASYNCHRONOUS)**

Motors with aluminum cast chassis up to group 132 and iron cast from group 160 onwards according to the IEC72-1 standard.

**EFFICIENCY**

IE1 standard motor efficiency in motors up to 0.55 kW according to the IEC 60034 T30 standard.  
IE2 high efficiency motors in motors from 0.75 kW according to the IEC 60034 T30 standard.  
Motors can optionally be supplied with Premium IE3 efficiency from 0.75 kW.

**SPEED**

4 poles (1,500 rpm).

Optionally, 2 poles (3,000 rpm), 6 poles (1,000 rpm), 8 poles (750 rpm) and 12 poles (500 rpm).

**VOLTAGE AND FREQUENCY**

Standard: 230/400v and 50/60 Hz.

**TERMINAL BOX**

Position A (Top). Gland position 1 (Right input).

Other positions B, D for terminal box and 2, 3, 4 optionally for gland input.

**CONNECTING**

Changing the position of the terminal plate connectors can switch the coil from the stator to the spider / triangle (Y /  $\Delta$ ). The start-up in spider/triangle is not suitable for screw jack systems, given that higher torque is required from start-up.

The turning sense of the motor can easily be inverted by changing the two network lines.

**PROTECTION LEVELS**

Standard: IP 55.

Optionally: IP 56, 65, 66, 68.

**COOLING**

IC411 (Closed machine. Ventilated chassis smooth or with wings. External ventilator, mounted on the shaft).

Optionally: IC01, IC410, IC416A, IC416R, IC418.

**SERVICE FACTOR**

Standard: S1.

Optionally: S2, S3, S4, S5, S6, S7, S8, S9, S10

**COILED INSULATION**

Standard: Class F.

Optionally: Class B, Class H.

**BEARINGS**

Standard assembly and greasing for 25,000 hours.

Optionally: Reinforced bearings and special assemblies.

**PAINT**

Standard, according to the CEI 60721.2.1 standard.

... 1 layer of epoxy primer 30/40  $\mu\text{m}$ .

... 1 layer of polyurethane finish 20/30  $\mu\text{m}$ .

Optionally: More layers of epoxy and polyurethane can be added, with higher micronage for corrosive environments.

**FREQUENCY CONVERTER**

In the case of screw jacks in large installations, the use of a frequency converter is recommended, for a start-up ramp and uniform braking. This reduces noise to a minimum in the start-up and increases the useful life of the screw jack.

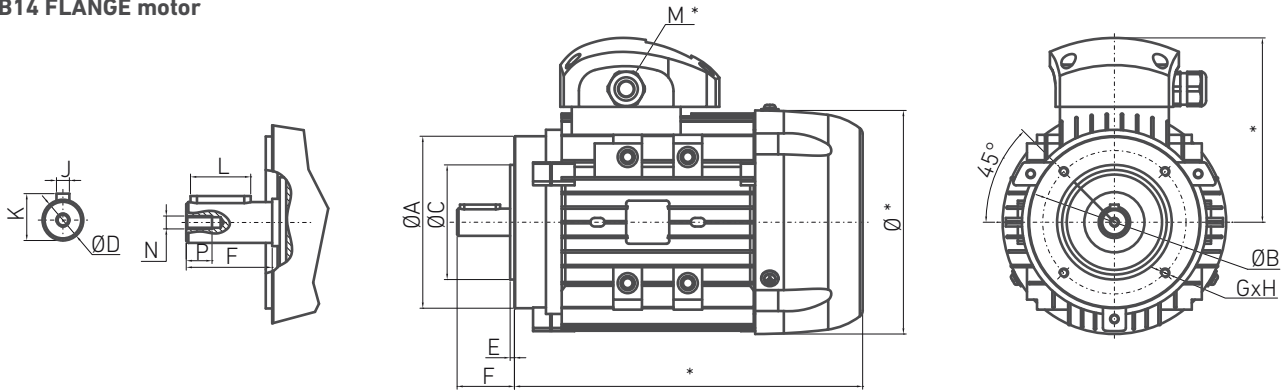
If a motor/brake is used with a frequency converter, the brake must be fed with a separate control cable through the converter.

**BRAKE MOTOR**

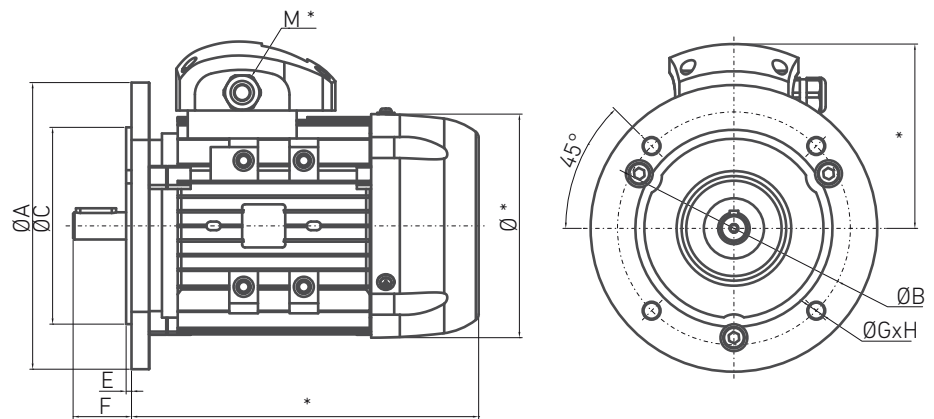
To reduce inertia to the minimum in an installation, or in the case of ball or trapezoidal screws with more than one input, a brake must be used on the motor.

For further information about the different options, please ask NIASA.

### B14 FLANGE motor



### B5 FLANGE motor



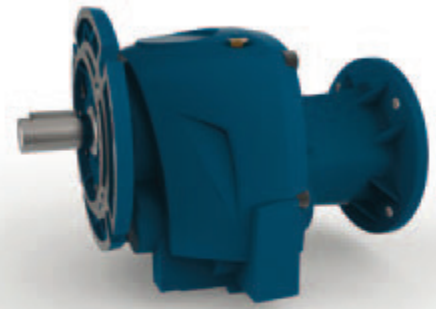
Motor group size table

		ØA	ØB	ØC	ØD	E	F	G	H	J	K	L	N	P
<b>56</b>	B14	80	65	50	9	2.5	20	M5	11	3	10.4	15	M4	12
	B5	120	100	80		3		Ø7	8					
<b>63</b>	B14	90	75	60	11	2.5	23	M5	11	4	12.8	15	M4	12
	B5	140	115	95		3		Ø10	10					
<b>71</b>	B14	105	85	70	14	3	30	M6	11	5	16.3	20	M5	12
	B5	160	130	110		3		Ø10	10					
<b>80</b>	B14	120	100	80	19	3	40	M6	11	6	21.8	28	M6	16
	B5	200	165	130		3.5		Ø12	10					
<b>90</b>	B14	140	115	95	24	3	50	M8	11	8	27.3	40	M8	19
	B5	200	165	130		3.5		Ø12	10					
<b>100</b>	B14	160	130	110	28	3.5	60	M8	11	8	31.3	50	M10	22
	B5	250	215	180		4		Ø15	13					
<b>112</b>	B14	160	130	110	28	3.5	60	M8	11	8	31.3	50	M10	22
	B5	250	215	180		4		Ø15	13					
<b>132</b>	B14	200	165	130	38	3.5	80	M10	11	10	41.3	70	M12	28
	B5	300	265	230		4		Ø15	13					
<b>160</b>	B14	250	215	180	42	4	110	M12	11	12	45.3	100	M16	36
	B5	350	300	250		5		Ø19	13					
<b>180</b>	B5	350	300	250	48	5	110	Ø19	11	14	52.8	100	M16	36

(\* The elevations vary depending on power, manufacturer and accessories of the motor.  
For further information please Contact NIASA.

# DRIVE ACCESSORIES

## COAXIAL REDUCER



Reducers with aluminum alloy casting up to size 23-30, depending on manufacturers and iron casting for other sizes.

### GEARS

Class 6 precision cuts according to DIN 3962 for optimising noise and performance levels. With thermal cementation treatment to ensure minimum wear.

### REDUCTIONS

Extensive range of reductions, depending on models, on all the sizes for adapting to the customer's requirements.

### PROTECTION LEVEL

Standard: IP 55.

Optionally: IP 56, 65, 66, 68.

### LUBRICATION

By default, the reducers are supplied with ISO VG220 EP mineral oil for 5,000 hours of operation at temperatures between -10°C and +40°C according to ISO 6743.

Optionally: They can be supplied with other types of oils to support temperatures from -30°C to +60°C and up to 25,000 hours.

### BEARINGS

Over-sized and with standard greasing for 25,000 hours.

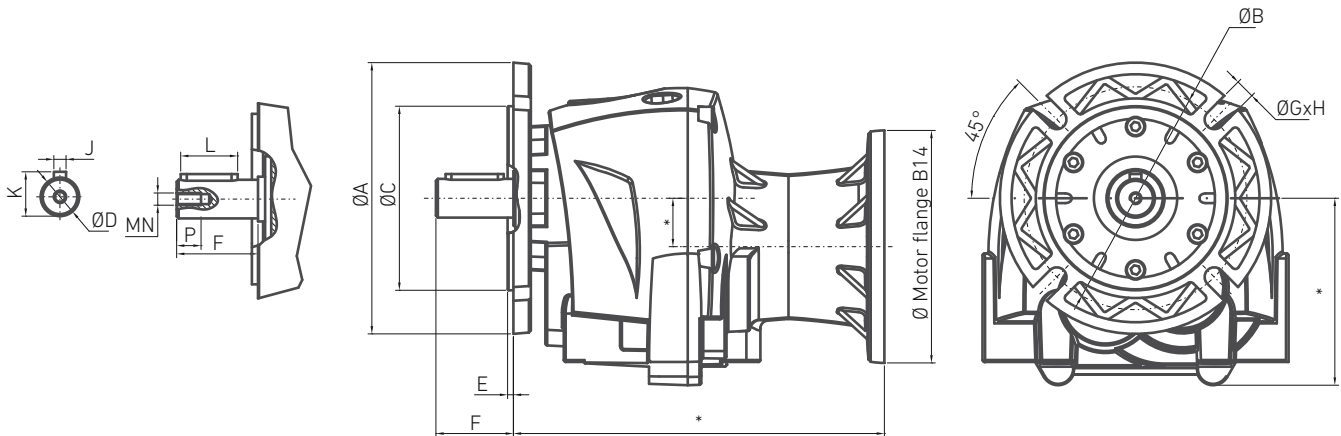
### PAINT

According to the CEI 60721.2.1 standard.

1 layer of primer epoxy 30/40 µm.

1 layer of polyurethane finish 20/30 µm.

Optionally: More layers of epoxy and polyurethane can be added, with higher micronage for corrosive environments.



Coaxial reducer size table

	Ø A	Ø B	Ø C	Ø D	E	F	Ø G	H	J	K	L	N	P
<b>20</b>	140	115	95	20	3	40	9	10	6	22.5	30	M8	19
<b>25</b>	160	130	110	25	3.5	50	11	12	8	28	40	M8	19
<b>30</b>	200	165	130	30	3.5	60	11	12	8	33	50	M10	22
<b>40</b>	250	215	180	40	4	80	14	15	12	43	70	M12	28

(\*) The elevations vary depending on the manufacturer, reductions and coaxial reducer accessories.

For further information please Contact NIASA.



### AUTOMATIC LUBRICATION SYSTEMS ALS

#### ADVANTAGES AND FEATURES



Automatic lubricators are specially recommend. for applic. with heavy duty cycles.

Below you can find the advantages they provide compared with manual lubrication, together with their main general features:

#### ECONOMICAL

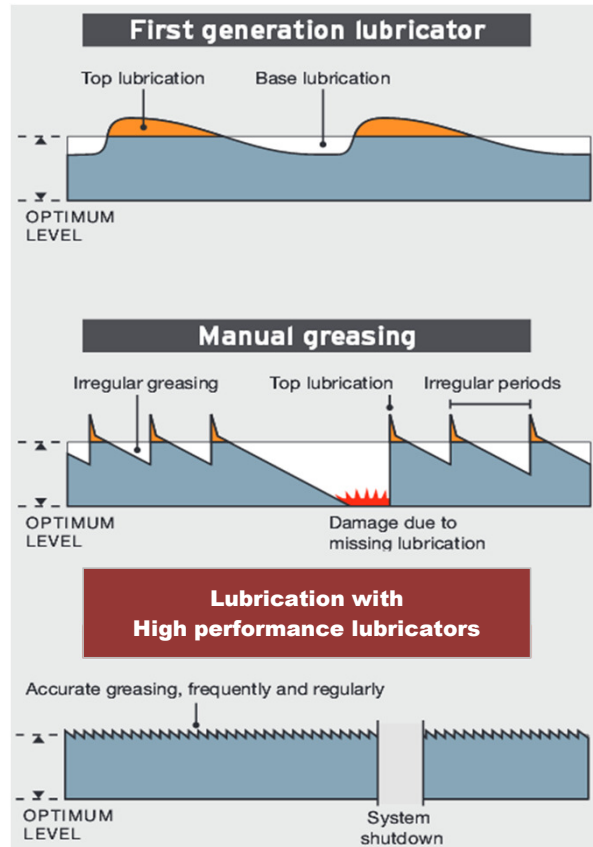
- > Long-term protection of equipment.
- > Increased reliability.
- > Cartridge change in less than 60 seconds.
- > Accurate lubrication.
- > Reduced maintenance costs.
- > Increased profitability.

#### SAFE

- > Remote installation for difficult or dangerous access points. Any installation position.
- > Reduced downtime for lubrication.
- > Easy to use.
- > Instant verification offered by transparent housing and check function.

#### ECOLOGICAL

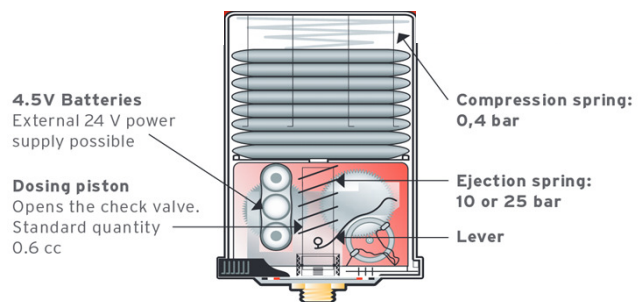
- > Reusable.
- > Wide range of low cost replacement cartridges and battery power packs.
- > Unlimited refills.
- > Reduced environmental impact.
- > Reduced lubricant consumption and improved protection of production



#### PUMP

This kind of lubricators has got a powerful and efficient pump:

- > Dosing pump with adjustable output.
- > Lubricant ejection pressure from 10 to 25 bar.
- > High-performance pump able to pump lubricants at extreme temperatures and with high viscosity.



#### MEMORY

The lubricators incorporate a smart setting memory:

- > The memo system adjusts the lubricant discharge frequency, by selecting or combining coloured screwable parts or rings).
- > The discharge frequency is set for each lubrication point once for all, but it can be adapted on demand at any time.

**SINGLE POINT LUBRICATORS**  
(Coloured screwable part)




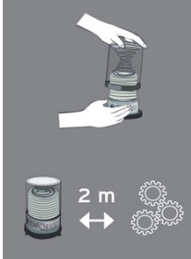

**SINGLE & MULTIPLE POINT LUBRICATORS**  
(Coloured ring)






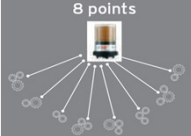
## LUBRICATORS RANGE

### SINGLE POINT LUBRICATOR. TECHNICAL SPECIFICATIONS

						
		SP-0	SP-1	SP-2		
10 bar single point 	Cartridge volume	120 cc	240 cc			
	Settings	12 or 24 months	6 or 12 months	1, 3, 6 or 12 months		
2 m 	Maximum stroke pressure	10 bar				
	Batteries	4,5 V DC Alkaline battery				
	Remote installation	Up to 2 metres at 0 °C — Ø8 mm tubing				
	Lubricants	Oil & Grease (up to NLGI#2, oil base up to 1500 mm <sup>2</sup> /s)				
	Operating temperature	-15°C to 50°C <sup>1)</sup>				
	Connections	G1/4				
	Dimensions	115 ∅101 mm	147 ∅101 mm			
	Protection level	IP 66				
	Certification	CE				
	Memory adjustments	SP-0		SP-1/SP-2	SP-2	
Coloured screwable part	●	●	●	●		
Adjustments (y= year / m= month)	2 years	1 year	1 year	6 months	3 months	1 month
Average daily output	0,15 cc	0,3 cc	0,6 cc	1,2 cc	2,4 cc	7,2 cc

<sup>1)</sup> Batteries and lubricat adapted for low temperatures

### SINGLE & MULTI POINT LUBRICATOR. TECHNICAL SPECIFICATIONS

							
		MP-1	MP-2	MP-3			
25 bar single or multiple point 25 bar (120 cc, 240 cc or 480 cc) single or multiple point 8 points 	Cartridge volume	240 cc or 480 cc		Unlimited by PLC			
	Output settings	7 main and several additional ones					
	Maximum stroke pressure	25 bar					
	Batteries / Power supply	4.5 V DC Alkal. batt.	External 24 V DC				
	Remote installation	Up to 8 metres / single point — Ø8 mm tubing					
	Lubricants	Oil & Grease (up to NLGI#2 with oil base up to 1500 mm <sup>2</sup> /s)					
	Operating temperature	-15°C to 50°C <sup>1)</sup>					
	Connections	G1/4					
	Control detector	Progressive distributor for 4, 6 and 8 outputs					
	Dimensions	240 cc: 147 ∅101 mm / 480 cc: 228 ∅101 mm					
Protection level	IP 66						
Certification	CE						
Memory adjustments	MP-1 / MP-2 / MP-3						
Coloured ring	●●●	●●	●●	●	●●	●	●
Daily ejection	24	12	4	2	1,5	1	0,5
Daily output in cc	15,1	7,6	2,5	1,3	1	0,6	0,3
Months to empty 240 cc	0,5	1	3	6	8	12	24 <sup>2)</sup>
Months to empty 480 cc	1	2	6	12	16	24 <sup>2)</sup>	-

<sup>1)</sup> Batteries and lubricat adapted for low temperatures

<sup>2)</sup> Only with MP-2



Standard NIASA automatic lubricators: SINGLE POINT SP-1 & SINGLE OR MULTIPLE POINT MP-1 / 240 cc. Rest of models, on request.



Battery set must be replaced when changing grease cartridge. Contact us for further technical information and User guide.



## AUTOMATIC LUBRICATION SYSTEMS ALS

### ACCESORIES

#### ADAPTERS / FITTINGS / PIPES

Accessory	Specification
Push in G1/4 (Female) to Ø8	Quick fitting
Push in G1/8 (Male) to Ø8	Quick fitting
Elbow fitting G1/8 (Male) to Ø8	Quick elbow fitting
Ø8-Ø6 Pipe 5 m	Transparent connecting hose
Fitting M6x1 (Male) to G1/8 (Female)	Adapter
Fitting M8x1 (Male) to G1/8 (Female)	Adapter
Fitting M10x1 (Male) to G1/8 (Female)	Adapter



#### EXTENSION KIT

Accessory	Specification
Single point fixture kit	Fixing kit 1 outlet, fitting and bracket and 2 push-in G1/8 (Male)



#### SPLITTER KIT 2 OUTLETS

Accessory	Specification
Kit splitter grease 2 outlets	Splitter 2 outlets (grease), bracket and 2 elbow fitting G1/8 -ø 8mm (ready to install the choosen lubricator on it)



#### DISTRIBUTOR KIT 4 / 6 / 8 OUTLETS

Accessory	Specification
Distributor kit 4 outlets	Installation kit for DB, distributor block, bracket and 2 push-in G1/8 per outlet (ready to install the choosen lubricator on it)
Distributor kit 6 outlets	Installation kit for DB, distributor block, bracket and 2 push-in G1/8 per outlet (ready to install the choosen lubricator on it)
Distributor kit 8 outlets	Installation kit for DB, distributor block, bracket and 2 push-in G1/8 per outlet (ready to install the choosen lubricator on it)



## ACCESORIES

### TRANSPARENT HOUSING FOR REFILL

Accessory	Specification
Kit 120 cc	Transparent housing, locking ring, compres. plate, spring, battery seal 240 cc
Kit 240 cc	Transparent housing, locking ring, compres. plate, spring, battery seal 240 cc
Kit 480 cc	Transparent housing, locking ring, compres. plate, spring, battery seal 480 cc
Special housing 240 cc	Transparent housing in polyamide for UV and aggressive environment 240 cc



### PROTECTION COVER

Accessory	Specification
Protection cover 240 cc	Protection against water and dust 240 cc
Protection cover 480 cc	Protection against water and dust 480 cc



## CONSUMABLES

### Consumable

Battery set

#### Grease cartridge 120 cc

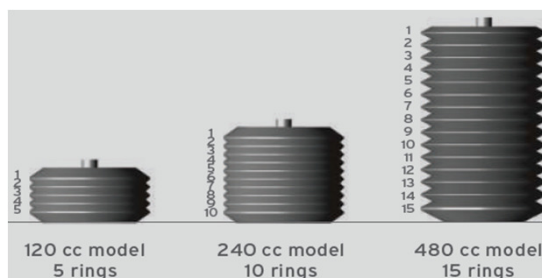
DIVINOL LITHOGREASE G421 (or equivalent)  
 DIVINOL LITHOGREASE 00 (or equivalent)  
 ISOFLEX TOPAS L 152 (or equivalent)

#### Grease cartridge 240 cc

DIVINOL LITHOGREASE G421 (or equivalent)  
 DIVINOL LITHOGREASE 00 (or equivalent)  
 ISOFLEX TOPAS L 152 (or equivalent)

#### Grease cartridge 480 cc

DIVINOL LITHOGREASE G421 (or equivalent)  
 DIVINOL LITHOGREASE 00 (or equivalent)  
 ISOFLEX TOPAS L 152 (or equivalent)



Lubricators are supplied without grease and battery set (SP and MP-1 models). Order them separately.