

Robocup

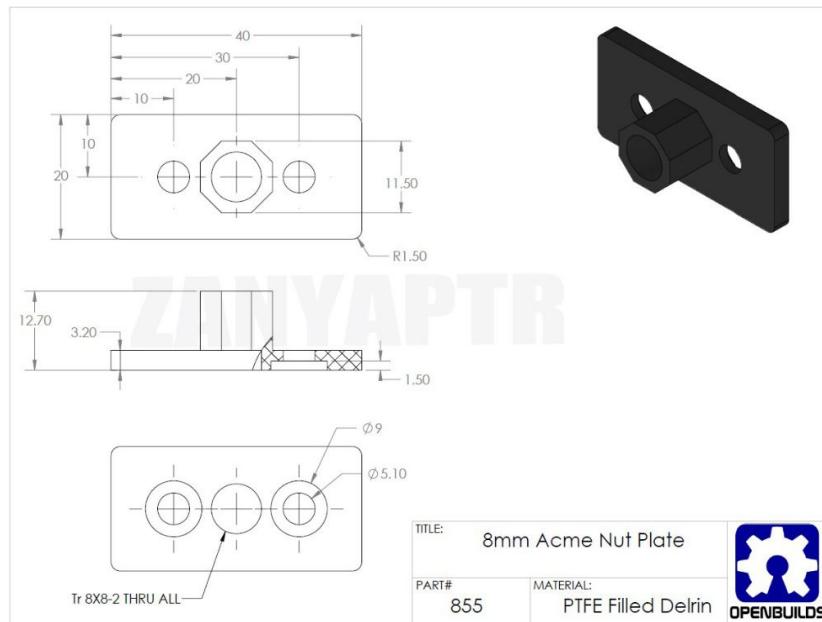
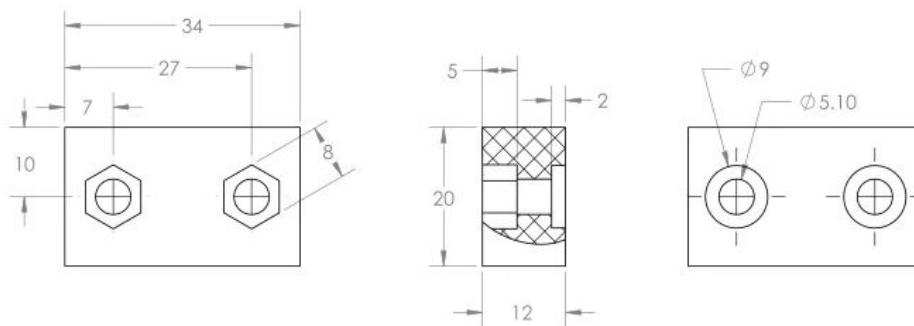
Documentation

Hardware Detail



A

Trapezoidal Lead Screw Block



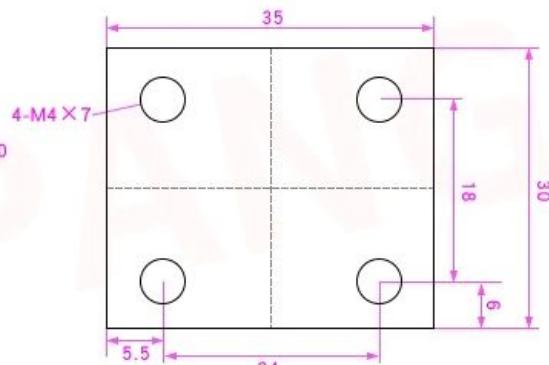
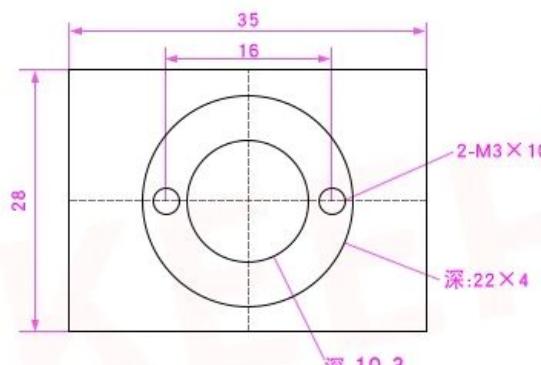
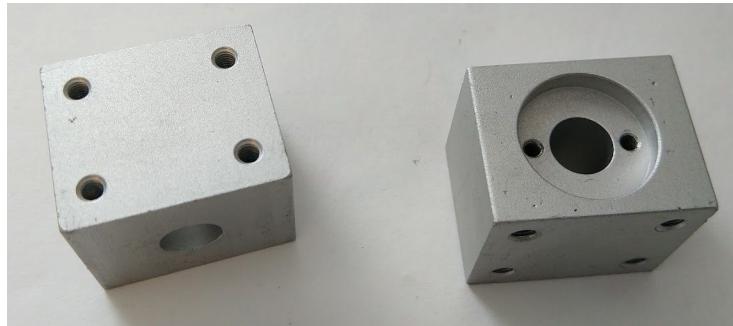
Notes

Type : T8 nut
 Diameter : 8mm
 Material : POM
 Pitch : 2mm
 Lead : 8mm
 (four-head,nut turn one circle,screw forward 8mm)



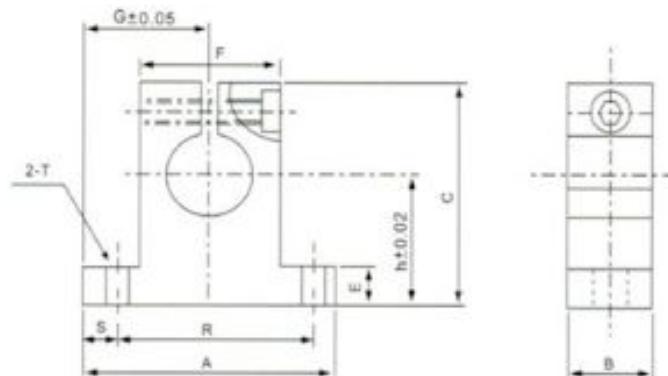
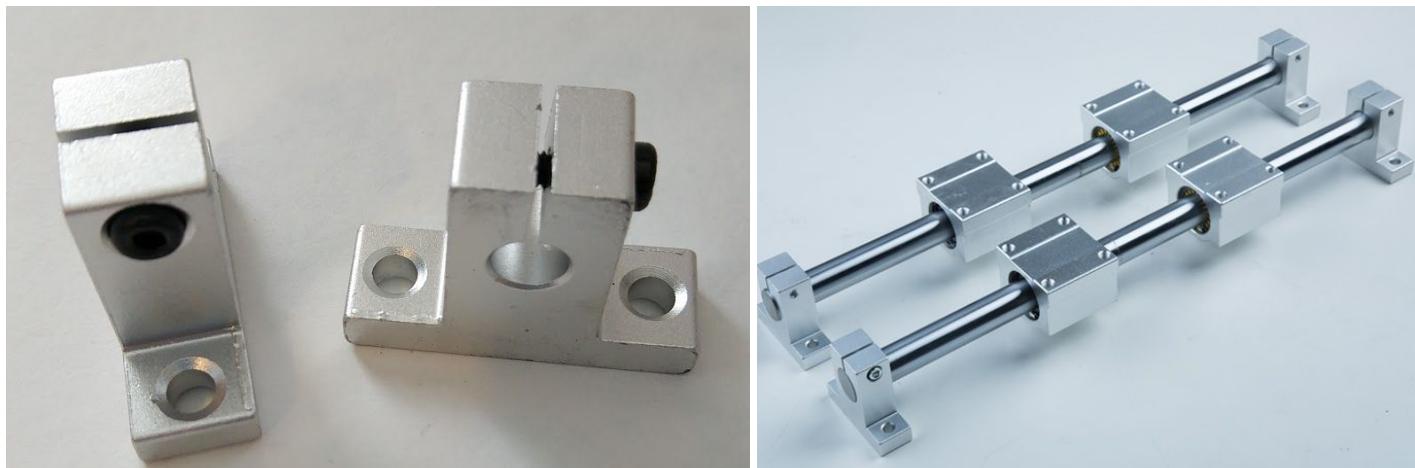
B

Trapezoidal Lead Screw Block



C

Linear Rail Support Block



型 号 Part Number	轴径 Shaft diameter	主要尺寸 Main dimensions (mm)										锁紧螺栓 Clamping bolt designation	安装螺栓 Mounting bolt designation	重量 g Weight
		h	G	A	B	C	E	F	R	S	T			
SK-8	8	20	21	42	14	32.8	6	18	32	5	5.5	M4	M5	24
SK-10	10	20	21	42	14	32.8	6	18	32	5	5.5	M4	M5	24
SK-12	12	23	21	42	14	37.5	6	20	32	5	5.5	M4	M5	30
SK-13	13	23	21	42	14	37.5	6	20	32	5	5.5	M4	M5	30
SK-16	16	27	24	48	16	44	8	25	38	5	5.5	M4	M5	40
SK-20	20	31	30	60	20	51	10	30	45	7.5	6.6	M5	M6	70
SK-25	25	35	35	70	24	60	12	38	56	7	6.6	M6	M6	130
SK-30	30	42	42	84	28	70	12	44	64	10	9	M6	M8	180
SK-35	35	50	49	98	32	82	15	50	74	12	11	M8	M10	270
SK-40	40	60	57	114	36	96	15	60	90	12	11	M8	M10	420
SK-50	50	70	63	126	40	120	18	74	100	13	14	M12	M12	750

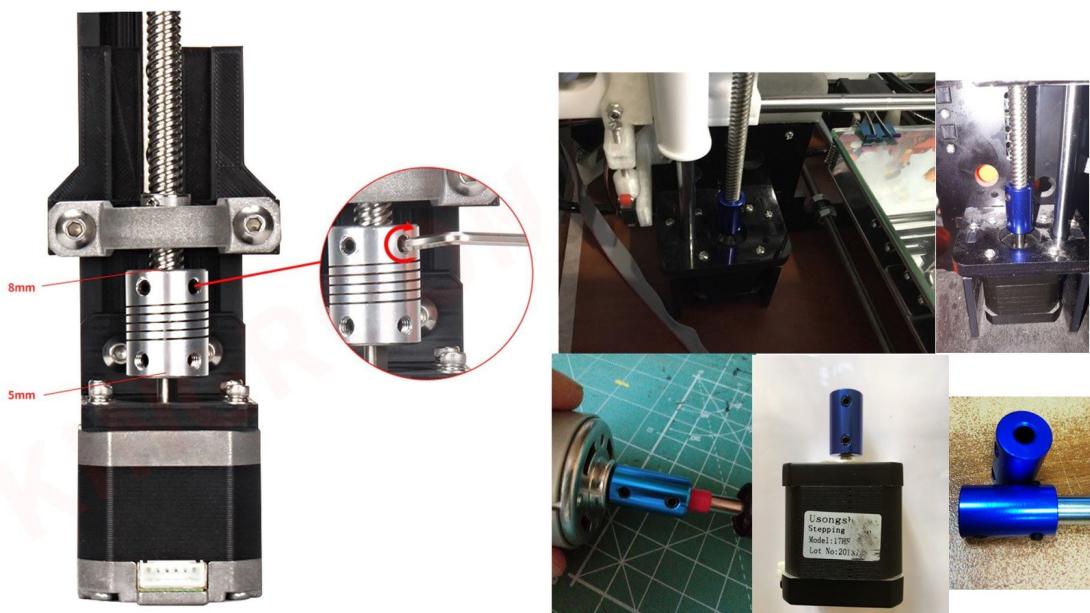
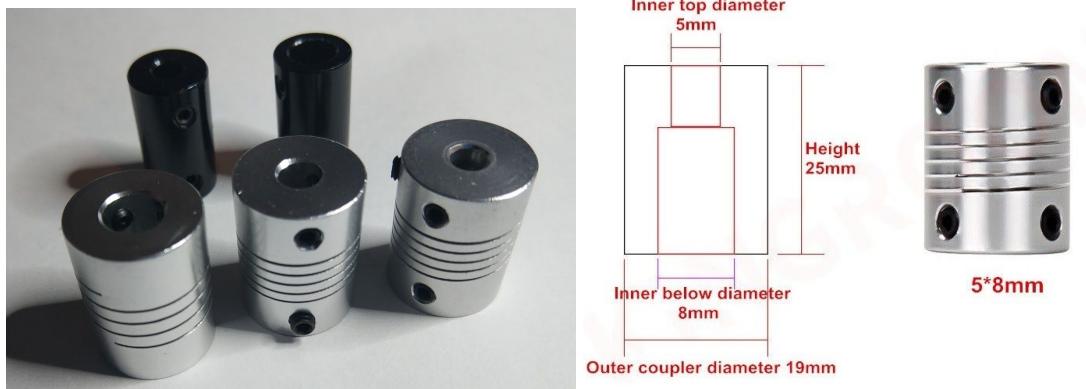
Notes

SK-8



D

Shaft Coupler



Notes

Rigid Shaft Coupler

Diameter : 14mm

Height : 25mm

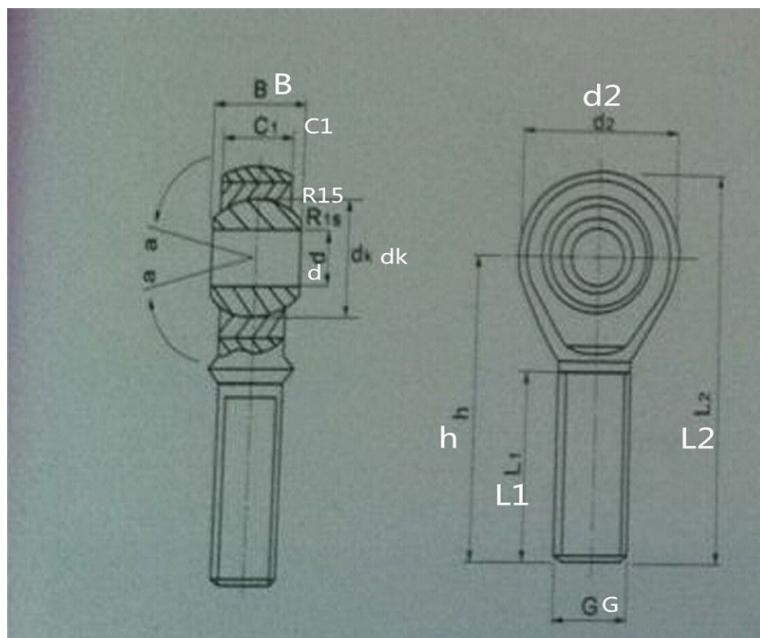
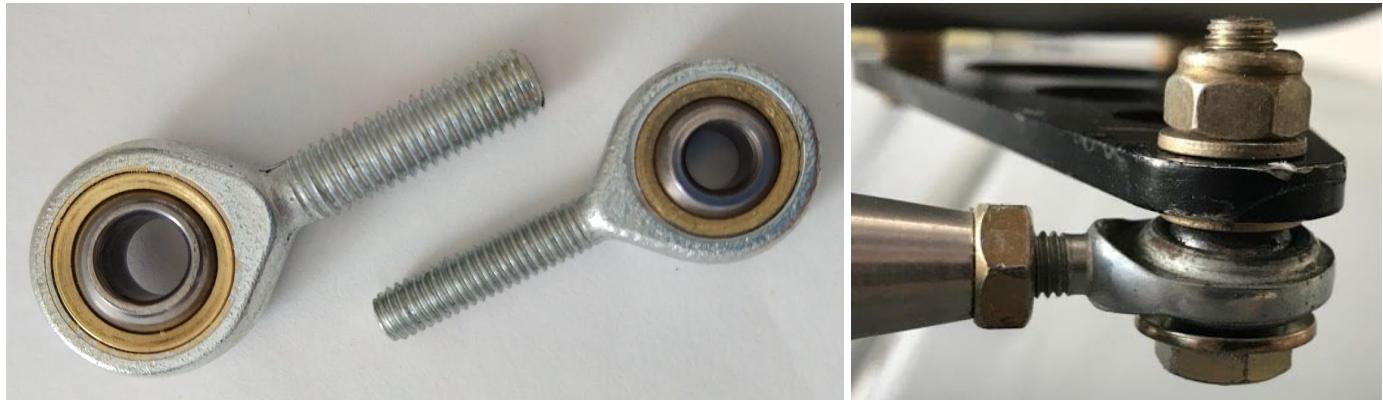
Sizes available: 5x5mm, 5x8mm, 8x8mm (Hole size of each end)

Flexible Shaft Coupler

Sizes available: 5x8mm, 6x8mm, 8x8mm, 5x8mm (Hole size of each end)

E

Rod ends



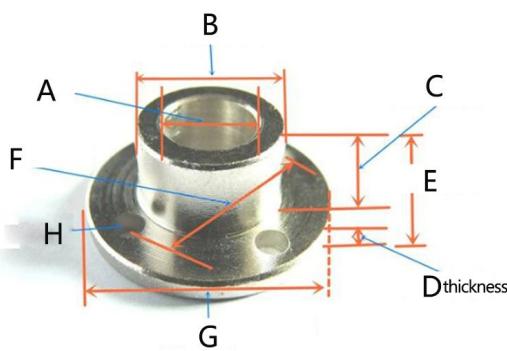
model	d	B	dk	c1 max	d2 max	Dimensions/mm		L1 MIN	L2 MAX	R15	load rate/dyn.C
						G	6H				
SA 6T/K	6	9	12.7	6.75	20	M6X1.0	36	21	46	0.3	7.2
SA 8T/K	8	12	15.875	9	24	M8X1.25	42	25	54	0.3	11.6
SA 10T/K	10	14	19.05	10.05	28	M10X1.5	48	28	62	0.3	14.5
SA 12T/K	12	16	22.225	12	32	M12X1.75	54	32	70	0.3	17
SA 16T/K	16	21	28.575	15	42	M16X2.0	66	37	87	0.3	28.5
SA 18T/K	18	23	31.75	16.5	44	M18X1.5	72	41	94	0.3	42.5

Notes

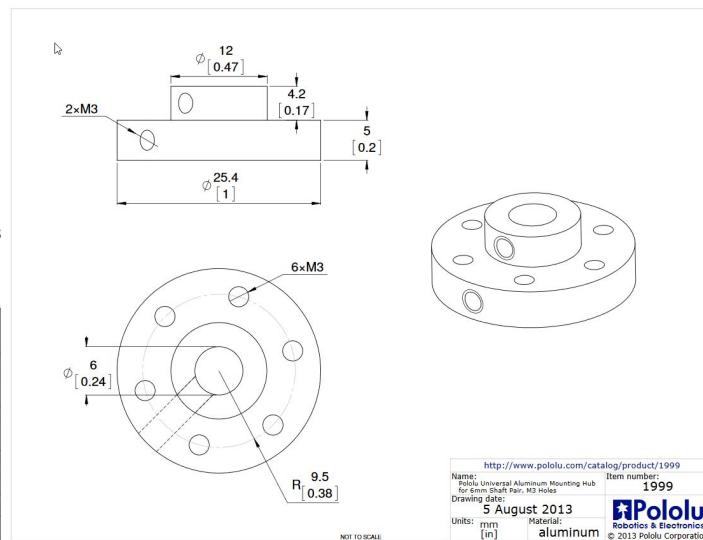
Sizes available: 6mm and 8mm

F

Rigid Flange Coupling



For Reference								
A	B	C	D	E	F	G	weight g	H suitable screw
3	10	10	2	12	16	22	10.8	3MM、M3
3.17	10	10	2	12	16	22	10.6	3MM、M3
4	10	10	2	12	16	22	10	3MM、M3
5	10	10	2	12	16	22	9.4	3MM、M3
6	10	10	2	12	16	22	8.6	3MM、M3
6.35	10	10	2	12	16	22	8.4	3MM、M3



hole diastance 6.35mm 6mm 5mm 4mm 3.17mm 3mm
outer diameter 10mm 10mm 10mm 10mm 10mm 10mm

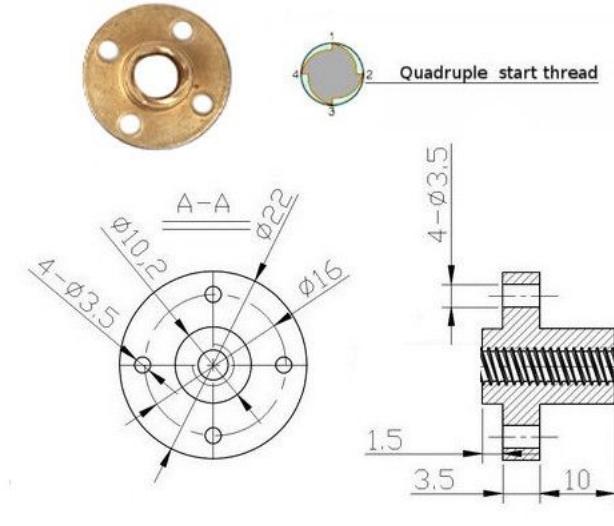
Notes

Sizes available: 6mm and 5mm



G1

Trapezoidal Lead Screw Nut



Notes

Material: copper nut

Screw diameter: 8mm

Pitch (distance between two screw): 2mm

Lead of thread 8mm

G2

Trapezoidal Lead Screw Nut, Zero Backlash



H

Linear Bearings



Model number	Specification		Main dimensions								W	D1		
	Number of ball rows	Weight(g)	Inscribed circle		Outer diameter		Length							
			D _r (mm)	Tolerance	D(mm)	Tolerance	L(mm)	Tolerance	B	Tolerance				
LM3UU	4	1.4	3		7		10							
LM4UU	4	1.9	4		8		12							
LM5UU	4	4	5		10		15				10.2			
LM6UU	4	8	6		12		19				13.5			
LM8SUU	4	11	8		15		17				11.5			
LM8UU	4	16	8		15		24				17.5			
LM10UU	4	30	10		19		29				22			
LM12UU	4	31.5	12		21		30				23			
LM13UU	4	43	13		23		32				23			
LM16UU	4	69	16		28		37				26.5			
LM20UU	5	87	20		32		42				30.5			
LM25UU	6	220	25		40		59				41			
LM30UU	6	250	30		45		64				44.5			
LM35UU	6	390	35		52		70				49.5			
LM40UU	6	585	40		60		80				60.5			
LM50UU	6	1580	50		80		100				74			
LM60UU	6	2000	60		90		110				85			
LM80UU	6	4520	80		120		140				105.5			
LM100UU	6	8600	100		150		175				125.5			
LM120UU	8	15000	120		180		200				158.5			
LM150UU	8	20250	150	0-0.025	210	0-0.029	240				170.6			

Notes

LM8UU, 8mm



Servo Arm Aluminium



Notes

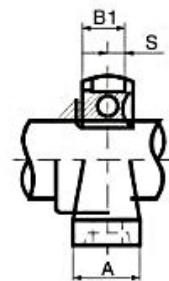
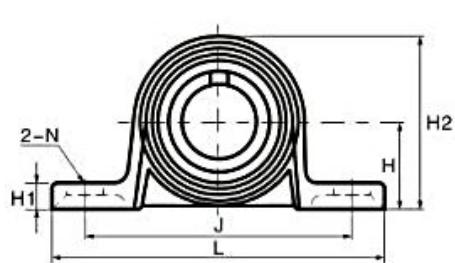
25T

There are more plastic servo arms in the storage cabinets next to charging station



J

Pillow Block Bearing



Bearing Unit No.	Shaft Dia	Dimensions (mm)												Bolt Used
	d (mm)	H	L	J	A2	N	H1	H2	B	S	C1	Zs		
KP08	8	16	55	42	12	4.5	5	30	12	3	5	30	M5	
KP000	10	68	45	53	16	7	6	35	14	4	5.56	33	M6	
KP001	12	19	71	56	16	7	6	38	14.5	4	5	33	M6	
KP002	15	22	80	63	16	7	7	43	16.5	4.5	4	34	M6	
KP003	17	24	85	67	18	7	7	47	17.5	5	5.5	38	M6	
KP004	20	28	100	80	20	10	9	55	21	6	7	46	M8	
KP005	25	32	112	90	20	10	10	62	22.5	6	6	47	M8	
KP006	30	36	132	106	26	13	11	70	24.5	6.5	6	50	M10	
KP007	35	42	150	118	33	13	14	76	33	8	8	55	M12	

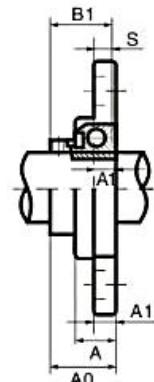
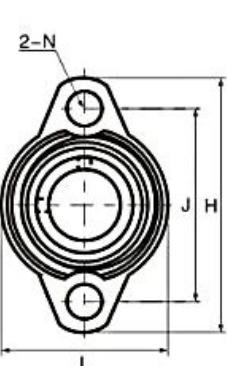
Notes

KP08



K

Flange Pillow Block Bearing



Bearing Unit No	Shaft Dia <i>d</i>	Dimensions (mm)													Bolt Used
		(mm)	H	J	A1	A2	A	N	L	A0	B	S	C1	Zs	
KFL08	8	48	36	4	4	8.5	5	27	12	11	3	4	12	M5	
KFL000	10	60	45	5.5	5.5	11.5	7	36	15.5	14	4	6	22	M6	
KFL001	12	63	48	5.5	5.5	11.5	7	38	16	14.5	4	6.5	22	M6	
KFL002	15	67	53	6.5	6.5	13	7	42	18.5	16.5	4.5	5	24	M6	
KFL003	17	71	56	7	7	14	7	46	19.5	17.5	5	6	26	M6	
KFL004	20	90	71	8	8	16	10	55	23	21	6	7.5	31	M8	
KFL005	25	95	75	8	8	16	10	60	24.5	22.5	6	7	32	M8	
KFL006	30	112	85	9	9	18	13	70	27	24.5	6.5	6.5	34	M10	
KFL007	35	122	96	11	11	21	14	80	33	30	8	8	38	M12	

Notes

KFL08



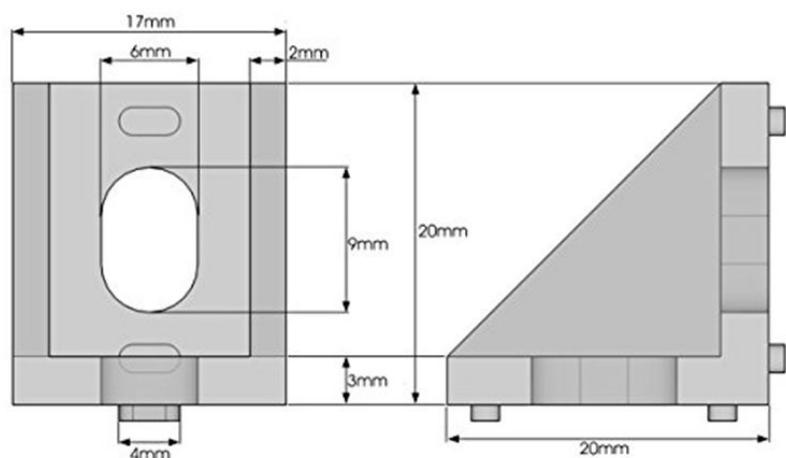
L

Plastic Pulley Wheels



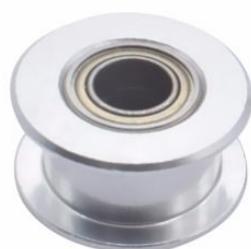
M

Aluminum 90 degree bracket

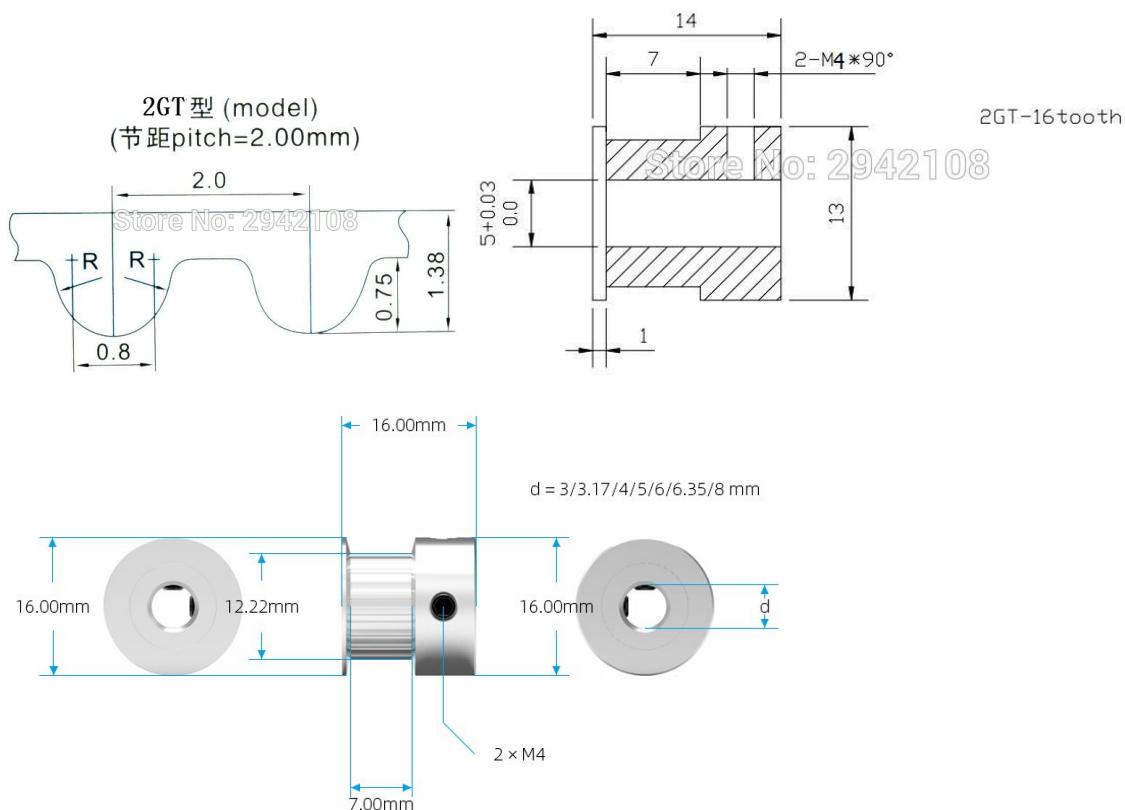


N

Pulley Small



ID:03 OD:18 W:6
NO T



Notes

Parts in kit: 20T ID3 OD18, 2GT 16 teeth, 2GT 20 teeth

Material: Aluminum.

Type of teeth : 2GT/GT2.

Application : 6mm Timining Belt.

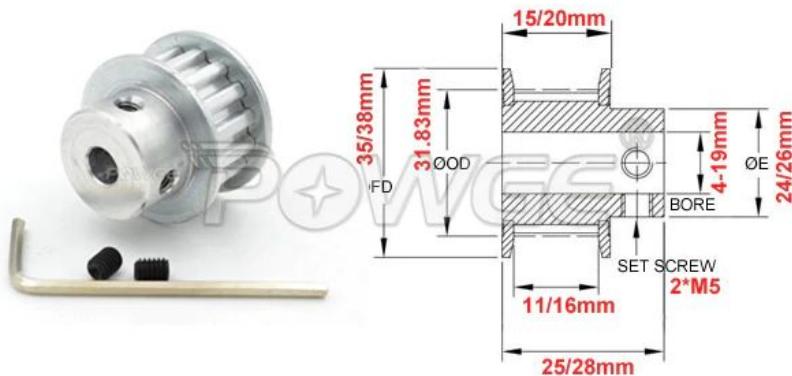


0

Pulley Large XL



**20-XL-10BF Timing Belt Pulley
20-XL-15BF**
For Width 10/15mm Belt



Note:

ØOD Is Outside Diameter ØE Is Hub Diameter ØFD Is Flange Diameter

Notes

Type: 20-XL BF Pulleys

Pitch: 5.08mm

Teeth Number: 20Teeth

OD: 31.83mm

Flange: Double

Material: Aluminium Alloy

Fixed Mode: 2*M5

Bore Of Timing Pulley: 6mm

Fit Width Of Timing Belt: 10mm



P

Aluminum Cutouts



Look in directory 11Models for dimensions

Q

Aluminum Cutouts



Look in directory 11Models for dimensions

R

Plastic Hinge

20 x 36mm



S

Flanged Bearing



Notes

Item No:F608ZZ

Type:Flanged deep groove ball bearings

Size:8mm x22mm x7mm

Precision:ABEC-1

Sealed Case:Double metal shielded cover

Main Material:bearing steel GCR15

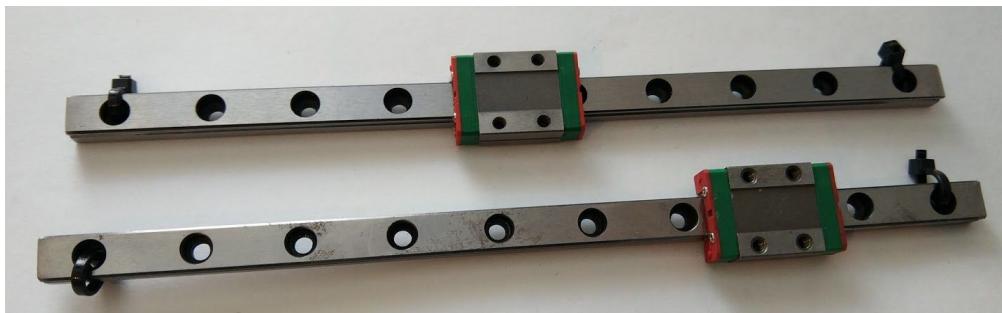
T

Drive Track Support Hardware

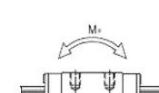
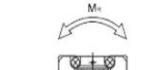
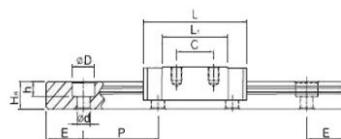
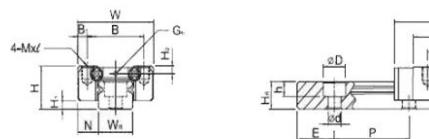


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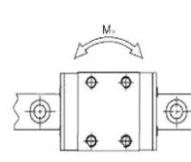
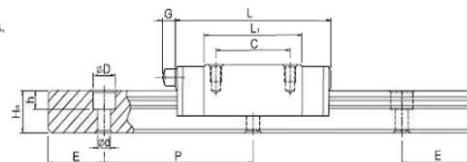
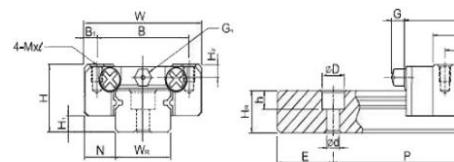
Linear rail



MGN7 MGN9 MGN12



MGN15



型号	组件尺寸 (mm)			滑块尺寸 (mm)						滑轨尺寸 (mm)						滑轨的 固定螺 栓尺寸 (mm)	基本 动锁定 负荷 C (kgf)	容许静力矩			重量 (kg/m)							
	H	H ₁	N	W	B	B ₁	C	L ₁	L	G	G ₁	Mxℓ	H ₂	W _n	H _n	D	h	d	P	E								
MGN 7C	8	1.5	5	17	12	2.5	8	13.5	22.5	-	ø0.8	M2 x 2.5	1.5	7	4.8	4.2	2.3	2.4	15	5	M2x6	100	127	0.48	0.29	0.29	10	0.22
MGN 7H								13	21.8	30.8											140	200	0.78	0.49	0.49	15		
MGN 9C	10	2	5.5	20	15	2.5	10	18.9	28.9	-	ø0.8	M3 x 3	1.8	9	6.5	6	3.5	3.5	20	7.5	M3x8	190	260	1.2	0.75	0.75	16	0.38
MGN 9H								16	29.9	39.9											260	410	2	1.9	1.9	26		
MGN 12C	13	3	7.5	27	20	3.5	15	21.7	34.7	-	ø0.8	M3 x 3.5	2.5	12	8	6	4.5	3.5	25	10	M3x8	290	400	2.6	1.4	1.4	34	0.65
MGN 12H								20	32.4	45.4											380	600	3.9	3.7	3.7	54		
MGN 15C	16	4	8.5	32	25	3.5	20	26.7	42.1	4.5	GN35	M3 x 4	3	15	10	6	4.5	3.5	40	15	M3x10	470	570	4.6	2.2	2.2	59	1.06
MGN 15H								25	43.4	58.8											650	930	7.5	5.9	5.9	92		



Notes

MGN9 C, 200mm long

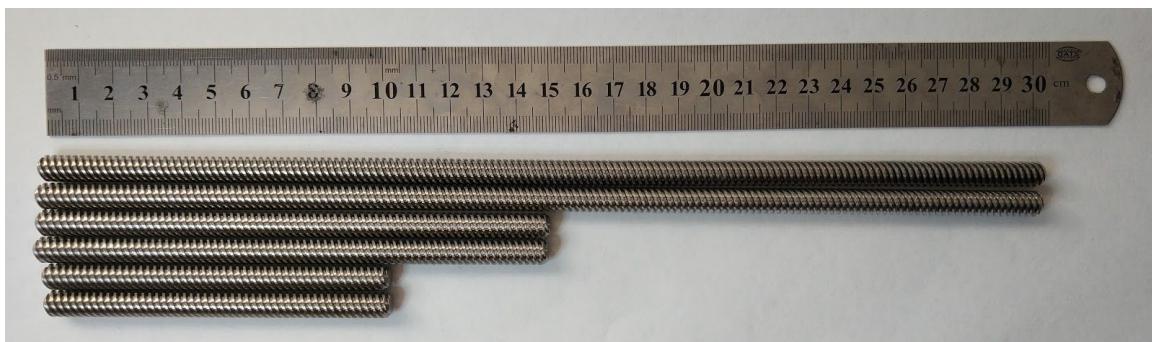
Balls can fall out of the carriage if taken off track

Great care is required so balls are not lost.



A

Trapezoidal Lead Screw



Notes

Type: T-shaped T8 Lead screw

Material: 304 stainless steel

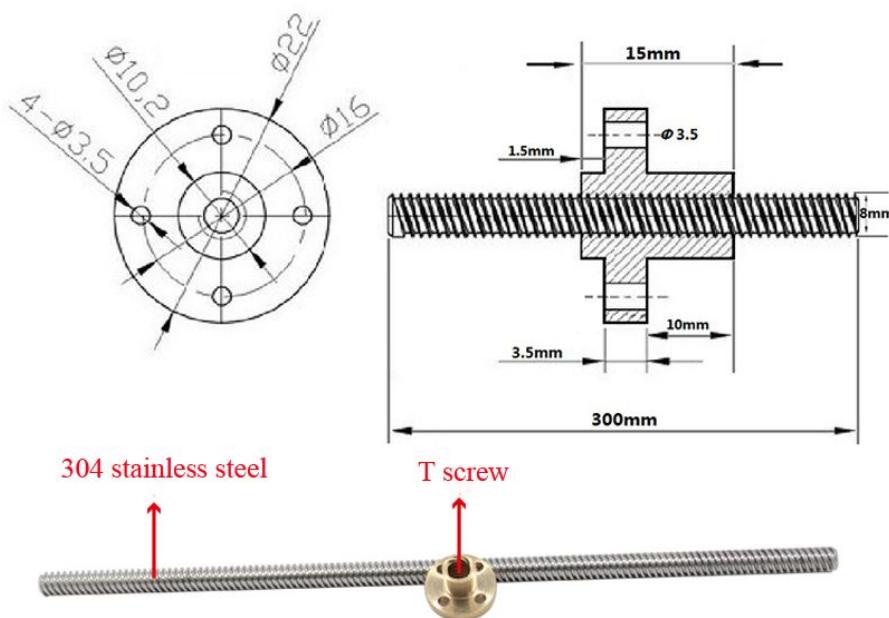
Diameter: 8mm

Pitch=2mm

Lead=2mm

length: 100, 150, 300

Pitch : 2mm Lead : 8mm (four-head,nut turn one circle,screw forward 8mm)



B

Robot Tracks



Notes

Name: 880-8M
Length: 880mm
Product Family: H.T.D. BELTS Section
Pitch: 8mm
Teeth: 120
Width: 15mm

C

Timing Belt



Notes

Name: 320 XL



D

Open Beam Aluminum Profile



Notes

Open beam Aluminum profile, Robot main chassis support, 223.5mm long

E

Timing belt



2GT synchronous belt

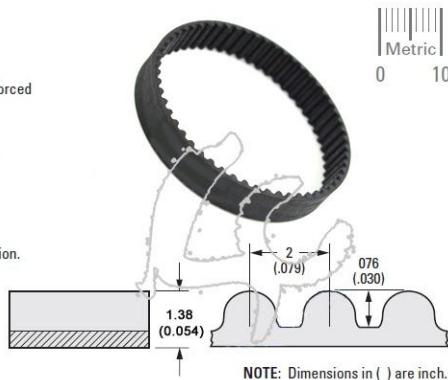
BELT WIDTHS
METRIC - 3, 6 & 9 mm

► MATERIAL:
Neoprene - Nylon Covered, Fiberglass Reinforced

► SPECIFICATIONS:
Breaking Strength:
86 N per 1 mm (62 lbf per 1/8 in.) Belt Width;
not representative of the load-carrying
capacity of the belt.
Working Tension:
111 N for 25.4 mm belt (25 lbf for 1 in. belt)
For more information, see the technical section.
Temperature Range:
-34°C to +85°C (-30°F to +185°F)

► MODIFICATIONS:
Special Widths - cut to size from
sleeves available from stock.

Metric
0 10



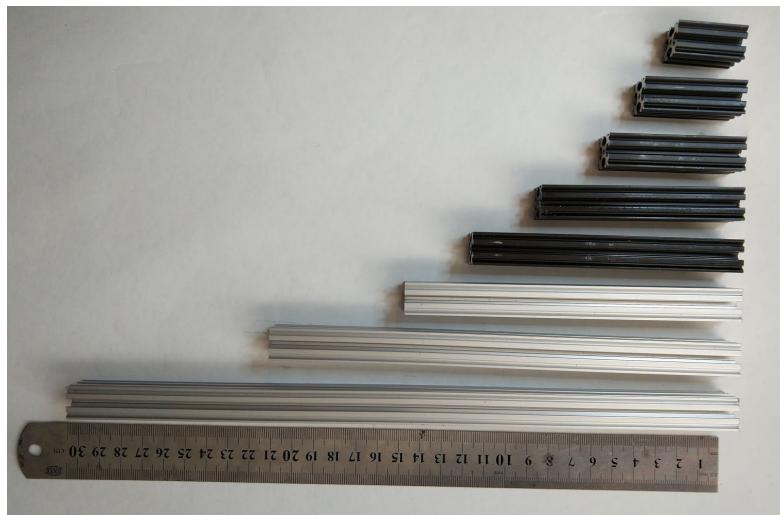
Notes

GT2



F

Open Beam Aluminum Profile

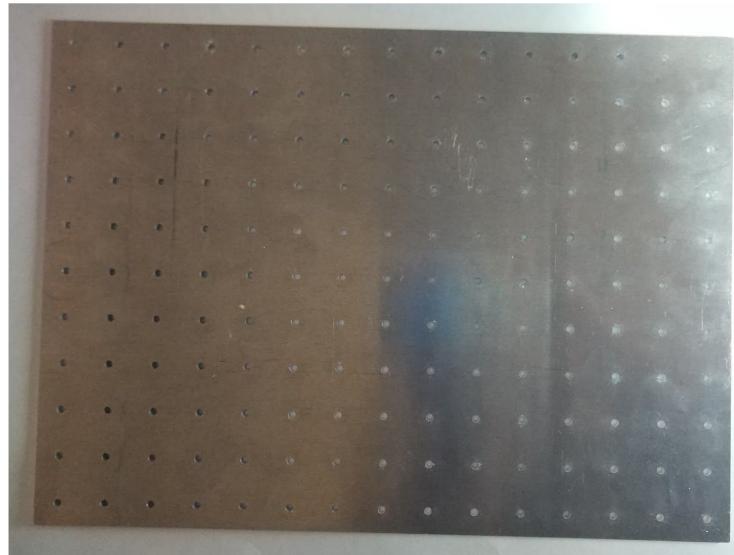


Notes

Sizes supplied: 300, 210, 150, 120, 90, 60, 45, 30mm

A

Robot Top Plate



Holes spaced 20mm apart, 3mm hole

B

Robot Side Plate



Look in directory 11Models for dimensions

C

Main Drive Pulley



Notes

40T5-16 timing pulley

tooth type: T5

tooth number:40

width:16mm

flange: double

bore:6.30mm

screw hole:2*M3

material:aluminum