Manually Operated Units
Vertical Type Handwheel Orientation Configurable

Manually Operated Units – Vertical Type Handwheel Orientation Configurable

RoHS 10

KULF

Components

Parts	Frame	Table	Lift Table	Angle Plate	Lead Screws
Material	Aluminum Alloy	Aluminum Alloy	Aluminum Alloy	Aluminum Alloy	1045 Carbon Steel or Equivalent
Surface Treatment	Clear Anodize	Clear Anodize	Clear Anodize	Clear Anodize	Black Oxide

Parts	Lead Screw Nut	Nut Bracket	Side Plate	Bevel Gear	Cover
Material	Brass	Aluminum Alloy	Aluminum Alloy	1045 Carbon Steel or Equivalent	304 Stainless Steel HL
Surface Treatment	—	Clear Anodize	Clear Anodize	—	—

Handwheel Type C

Handwheel Type A

Handwheel Type B

Handwheel Orientation L

Allowable Load / Allowable Moment

Part Number		Handwheel Type	Handwheel Orientation Configurable	Elevator Table Selection	Base Length L (mm)	Effective Stroke St(mm)	Lead Screw		Allowable Load (N)		Allowable Moment (N·m)			Handwheel Type										W	P	IH	Mass (kg)		
Type	No.						Thread Dia.	Lead	When Load Applied to Point A	When Load Applied to Point B	Ma	Mb	Mc	A			B			C						Handwheel Type		
														E	F	G	E	F	G	E	F	G				A	B	C
KULF	20	A Plastic Handle / B Plastic Offset Handwheel – Folding Type / C Five Spoked Handwheel	U D L R	Blank (w/) / N (w/o)	170 / 220 / 320 / 370 / 420 / 470	62 / 112 / 212 / 262 / 312 / 362	20	4	294	270	43	43	81	107	109.5	67	122	124.5	82	122	124.5	82	120 / 150	75 / 105	170 / 220 / 350	7.3 / 8.1 / 9.2 / 9.7 / 11.5 / 12.0	7.3 / 8.1 / 9.2 / 9.7 / 11.5 / 12.0	7.6 / 8.4 / 9.5 / 10 / 11.8 / 12.3

Part Number Example

Part Number	-	Handwheel Type	-	Handwheel Orientation	-	Elevator Table	-	L
KULF20	-	A	-	L			-	320	with Elevator Table
KULF20	-	A	-	U	-	N	-	320	without Elevator Table

Required Torque / Required Turning Force

Part Number		Required Torque (N·m)	Required Turning Force (N)
Type	No.	Vertical	Vertical
KULF	20	1.085	41.740

*Required torque and turning force are when allowable load is applied on two tables.
*Turning force is the force that rotates the handwheel. (See the figure on the right)

Accuracy

Type	Parallelism (mm)	Backlash (mm)
KULF	0.15	0.5

*Parallelism is when surface B and surface A are running side by side. (See figure below)
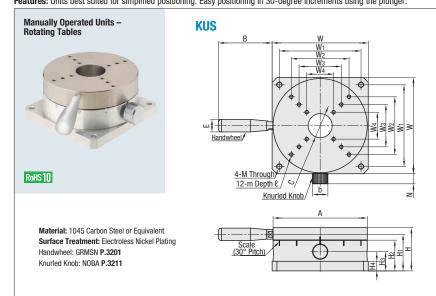*Backlash is not a guaranteed value but reference value.

Turning Force Fig.   Moment Fig.   Parallelism Fig.

Manually Operated Units
Rotating Tables

Features: Units best suited for simplified positioning. Easy positioning in 30-degree increments using the plunger.

Manually Operated Units – Rotating Tables

RoHS 10

KUS

Material: 1045 Carbon Steel or Equivalent
Surface Treatment: Electroless Nickel Plating
Handwheel: GRMSN **P.3201**
Knurled Knob: NOBA **P.3211**

Part Number Example

Part Number
KUS100

Application Example

Vertical Application by Side Mounting

Inverted Application

Adjuster Foot

Part Number		Stage Surface (mm)								Base (mm)							Handwheel (mm)		Knurled Knob (mm)	
Type	No.	A	W	W1	W2	W3	W4	M	C	m	l	H	H1	H2	H3	H4	B	E	N	b
KUS	50	Ø48	50	40	27	18	9	M5	—	M4	6	34	28	22	13	5	44	Ø10	11.5	Ø12
	100	Ø98	100	85	60	44	28	M6	Ø25	M4	8	45	38	32	20	10	56	Ø13	10.5	Ø16
	200	Ø198	200	175	124	94	64	M8	Ø70	M5	10	70	61	52.5	32	12	80	Ø20	14.5	Ø30

Part Number		Stage Diameter (mm)	No. of Indexed Positions	Indexing Angle	Load Capacity N {kgf}	Indexable Loads (reference values) N {kgf}	Motion Accuracies			Weight (kg)
Type	No.						Eccentricity (mm)	Parallelism (mm)	Surface Run-Out (mm)	
KUS	50	Ø48	12	30°±1°	980 {100}	98 {10}	0.1	0.2	0.1	0.34
	100	Ø98			1470 {150}	196 {20}				1.64
	200	Ø198			1960 {200}	392 {40}				8.70

❶ Still usable when exceeding the indexable loads but plunger indexing will not work.

Rotary Table Mounting Orientation
Cautions are needed for the mounting styles as shown on right.

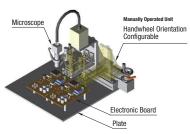| No.	Inverted Application	Vertical Application by Side Mounting
50	○	○
100	△	○
200	△	△

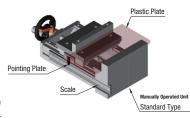○ : Limitations exist on loads and moments, but they can still be used.
△ : Performance may be seriously affected depending on application.
❶ Must take precaution against mounted load from falling if failure occurs in this application.

Microscope Inspection Stage
Inspects a few types of electric components (at specific portion).
Manually Operated Unit is used for the axis of XY Inspection Stage to slide a microscope.

Crack Inspection and Simplified Measurement Device
Operates crack inspection and simplified measurement for plastic plates.
Manually Operated Unit is used to prevent claims due to slight cracks and scratches after delivery. Conducts inspection with constant pressure loaded, and measures dimensions with an attached scale.

Laser Marker Lifting Device
Laser marker is lifted/lowered to adjust the marking position since the position of laser engraving differs depending on products.
Angle Plate Integrated Manually Operated Unit is used to prevent tilt of a heavy laser marker when lifted/lowered.

Manually Operated Unit
Lift Type, Handwheel Orientation Configurable