

# Compact Guide Cylinder

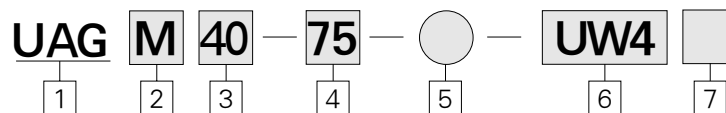
## Series **UAG**

Bore Size mm(inch) :  $\phi 12(1/2 \text{ Nom})$ ,  $\phi 16(5/8 \text{ Nom})$ ,  $\phi 20(3/4 \text{ Nom})$ ,  $\phi 25(1 \text{ Nom})$ ,  $\phi 32(1 1/4 \text{ Nom.})$ ,  $\phi 40(1 1/2 \text{ Nom})$ ,  $\phi 50(2 \text{ Nom})$ ,  $\phi 63(2 1/2 \text{ Nom})$ ,  $\phi 80(3 1/4 \text{ Nom})$ ,  $\phi 100(4 \text{ Nom})$



- COMPACT SLIM BODY GUIDE CYLINDER
- 10 BORE SIZES
- MULTIPLE MOUNTING OPTIONS
- FLUSH MOUNTING-AUTO SWITCH
- AVAILABLE WITH BALL BEARING BUSHINGS
- LOW BREAKAWAY
- DESIGNED FOR NON-LUBE APPLICATIONS
- HIGH LOAD BEARING CHARACTERISTICS

### How to Order



**1 Compact Guide Cylinder**  
Built-in Magnet

**2 Type of Bearing**  
M : Slide Bearing (Suitable for Stopper)  
L : Ball Bushing Bearings (Suitable for Lifting/ Pushing)

**3 Bore Size (inch)**  
12 :  $\phi 12\text{mm}(1/2 \text{ Nom.})$   
16 :  $\phi 16\text{mm}(5/8 \text{ Nom.})$   
20 :  $\phi 20\text{mm}(3/4 \text{ Nom.})$   
25 :  $\phi 25\text{mm}(1 \text{ Nom.})$   
32 :  $\phi 32\text{mm}(1 1/4 \text{ Nom.})$   
40 :  $\phi 40\text{mm}(1 1/2 \text{ Nom.})$   
50 :  $\phi 50\text{mm}(2 \text{ Nom.})$   
63 :  $\phi 63\text{mm}(2 1/2 \text{ Nom.})$   
80 :  $\phi 80\text{mm}(3 1/4 \text{ Nom.})$   
100 :  $\phi 100\text{mm}(4 \text{ Nom.})$

**4 Cylinder Stroke (mm)**  
Refer to Model/Standard Stroke Table.

**5 Option**  
Blank : Standard  
XC16 : Copper-Free

**6 Type of Auto Switch**  
Blank : Without Auto Switch (Cylinder with built-in magnet)  
**Reed switch**  
UW4 : UW4 (2 wire DC24V, AC100V)  
※ The standard, lead wire length is 0.5m "L" is added for 3m long lead wire (applicable to all models) (Example) UW4L

**7 Auto Switch**  
Blank : 2 Pcs  
S : 1 Pc

#### Model/Standard Stroke Table

Model	Type of Bearing	Bore Size (mm)	Standard (mm)
UAGM	Slide Bearing	$\phi 12$ , $\phi 16$	10, 20, 30, 40, 50, 75, 100
UAGL	Ball Bush Bearing	$\phi 20 \sim \phi 100$	25, 50, 75, 100, 125, 150

• **(Intermediate Stroke)**  
As to Intermediate stroke (5, 10, 15, 35...), Spacer of 5, 10, 15, 20mm width will be used.  
(Example) UAGM50-10 is Produced by installing 15mm spacer in UAGM 50-25.

Consult factory when the desired stroke is greater than the standard stroke.

## Specifications

Operation	Double Acting
Fluid	Air
Proof pressure	217 PSI(1.5MPa)
Max. operating pressure	142 PSI(1.0MPa)
Min. operating pressure	14 PSI(0.12MPa)
Ambient and fluid temperature	14~140°F
Piston speed	2~20 inch/sec
Cushion	Rubber Cushion at Both Sides
Lubrication	Non-Lubrication
Stroke tolerance	$\begin{matrix} +1.5 \\ 0 \end{matrix}$ mm

ACP

UACP

AX

AS

AM

AL  
ALX

UARD

UAQ

AJ

AG

UAG

ADM

ADR

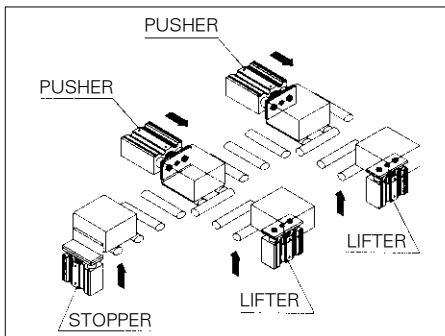
AMR

UAMR

AST

W~

• Space saving cylinder.  
Provides Non-Rotating support for side loads. Suitable for conveyor lines where stopping lifting are required



Typical Application



• 2 kinds of bearings

**Slide Bearing** -  
Strength against side load is more than 2 times that of conventional stopper cylinders.

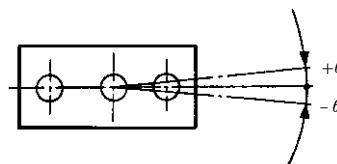
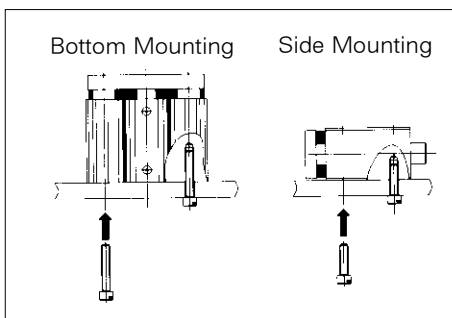
**Ball Bush Bearing** -  
Smooth operation suitable for pushing, lifting and applications where high precision is required.



• High Non-Rotating Load Capability

Bore size (inch)	Non-rotating accuracy $\theta$	
	UAGM	UAGL
$\phi 12(1/2 \text{ Nom.})$	$\pm 0.07^\circ$	$\pm 0.10^\circ$
$\phi 16(5/8 \text{ Nom.})$	$\pm 0.06^\circ$	$\pm 0.09^\circ$
$\phi 20(3/4 \text{ Nom.})$	$\pm 0.06^\circ$	$\pm 0.08^\circ$
$\phi 25(1 \text{ Nom.})$	$\pm 0.05^\circ$	$\pm 0.06^\circ$
$\phi 32(1 1/4 \text{ Nom.})$	$\pm 0.04^\circ$	$\pm 0.05^\circ$
$\phi 40(1 1/2 \text{ Nom.})$	$\pm 0.04^\circ$	$\pm 0.05^\circ$
$\phi 50(2 \text{ Nom.})$	$\pm 0.04^\circ$	$\pm 0.05^\circ$
$\phi 63(2 1/2 \text{ Nom.})$	$\pm 0.04^\circ$	$\pm 0.05^\circ$
$\phi 80(3 1/4 \text{ Nom.})$	$\pm 0.04^\circ$	$\pm 0.05^\circ$
$\phi 100(4 \text{ Nom.})$	$\pm 0.04^\circ$	$\pm 0.05^\circ$

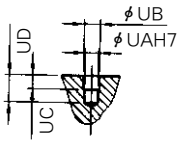
## MOUNTING FUEXIBILITY



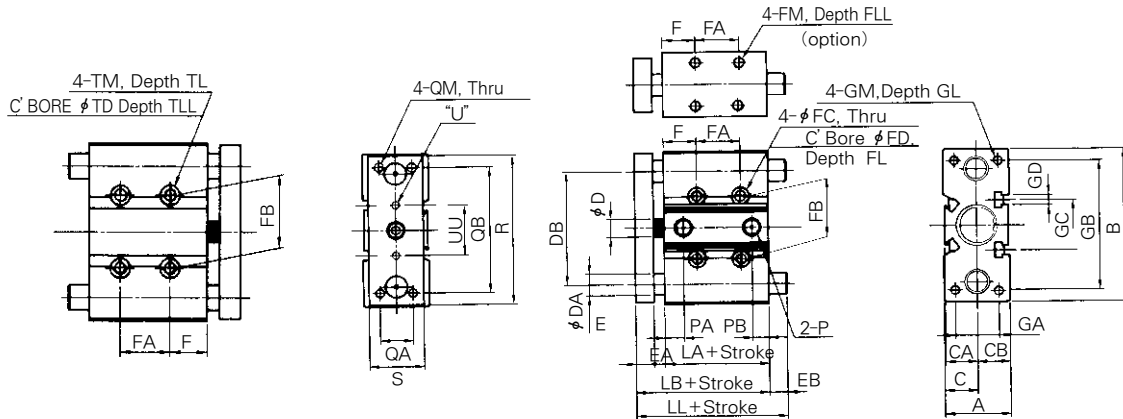
# Series UAG

φ 12(0.47)~φ 25(0.98)/UAGM · UAGL

(inch)



DETAIL "U"



## UAGM · UAGL Common Dimensions

※ As to intermediate stroke, spacer will be used.(inch)

Bore mm (inch)	A	B	C	C	C	B	D	DA		DB	E	EA	EB						F	FA		FB	FC	FD	FL	FH	FM	FLL	GA	GB	GC	GD	GM	GL	LA	LB							
								JAGM	UAGL				UAGM			UAGL				30ST	30ST																30ST	30ST	30ST	30ST	30ST	30ST	30ST
								Less	Between				50ST	10ST	20ST	30ST	40-50	50ST		Less	Above																Less	Between	Above	Less	Above	Less	Above
φ12(1/2 Nom.)	1.02	2.36	0.51	0.49	0.51	0.24	0.32	0.24	1.81	0.32	0.20	0	0.20	1.34	0.12	0.51	0.51	0.91	1.10	0.28	0.79	1.58	0.98	0.17	0.32	0.53	0.71	M5×0.8	0.47	0.71	1.97	0.91	M3	M4×0.7	0.39	1.14	1.65						
φ16(5/8 Nom.)	1.18	2.64	0.59	0.57	0.59	0.32	0.39	0.32	1.97	0.32	0.20	0	0.20	1.34	0.20	0.79	0.79	1.18	1.38	0.28	0.95	1.73	1.06	0.17	0.32	0.49	0.87	M5×0.8	0.47	0.87	2.21	0.95	M3	M5×0.8	0.47	1.30	1.81						
φ20(3/4 Nom.)	1.42	3.35	0.71	0.69	0.71	0.39	0.47	0.39	2.28	0.39	0.24	0.12	0.20	1.85	-	0.47	0.98	1.38	1.65	0.71	0.95	1.73	1.22	0.22	0.37	0.53	0.95	M5×0.8	0.51	0.95	2.84	1.10	M5	M5×0.8	0.51	1.46	2.09						
φ25(1 Nom.)	1.65	3.74	0.83	0.81	0.83	0.47	0.63	0.51	2.68	0.39	0.24	0.12	0.20	1.85	-	0.71	0.71	1.46	1.89	0.71	0.95	1.73	1.38	0.22	0.37	0.57	1.18	M6×1.0	0.59	1.18	3.23	1.34	M5	M6×1.0	0.59	1.48	2.11						

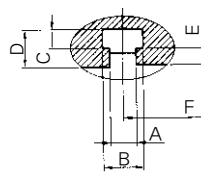
Bore mm (inch)	LL										PA	PB	QA	QB	QM	R	S	TM	TL	TD	TLL	UU	UA	UB	UC	UD	P
	UAGM		UAGL																								
	30ST	40ST	50ST	10ST	20ST	30ST	40-50	50ST																			
φ12(1/2 Nom.)	1.65	1.85	2.99	1.77	2.17	2.17	2.56	2.76	2.76	0.43	0.33	0.55	1.89	M4×0.7	2.28	0.87	M5×0.8	Through	0.24	0.17	0.91	0.12	0.14	0.12	0.24	10-32UNF	
φ16(5/8 Nom.)	1.81	2.13	3.15	2.00	2.60	2.60	2.99	3.19	3.19	0.43	0.32	0.63	2.13	M5×0.8	2.56	0.98	M5×0.8	0.39	0.24	0.17	0.95	0.12	0.14	0.12	0.24	10-32UNF	
φ20(3/4 Nom.)	2.09	2.28	3.94	-	2.56	3.07	3.46	3.74	3.74	0.41	0.35	0.71	2.76	M5×0.8	3.27	1.18	M6×1.0	0.47	0.28	0.32	1.10	0.12	0.14	0.12	0.24	NPT1/8	
φ25(1 Nom.)	2.22	2.30	3.96	-	2.81	2.81	3.56	4.0	4.0	0.45	0.37	1.02	3.07	M6×1.0	3.66	1.50	M6×1.0	0.47	0.28	0.32	1.34	0.16	0.18	0.12	0.24	NPT 1/8	

## Grooves(Except for φ 12, φ 16, φ 20, φ 25)

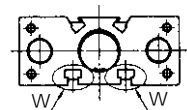
These grooves can be used to firmly fix the lead wires of the auto switch, and also terminal boards, etc., to the main body of the cylinder.

Model	(inch)						Applicable Bolt
	A	B	C	D	E	F	
UAG + 12	0.14	0.24	0.08	0.17	0.06	0.91	M3
UAG + 16	0.15	0.24	0.08	0.18	0.06	0.95	M3
UAG + 20	0.22	0.33	0.14	0.31	0.12	1.10	M5
UAG + 25	0.22	0.33	0.14	0.32	0.12	1.34	M5

UAG ■ 12~25



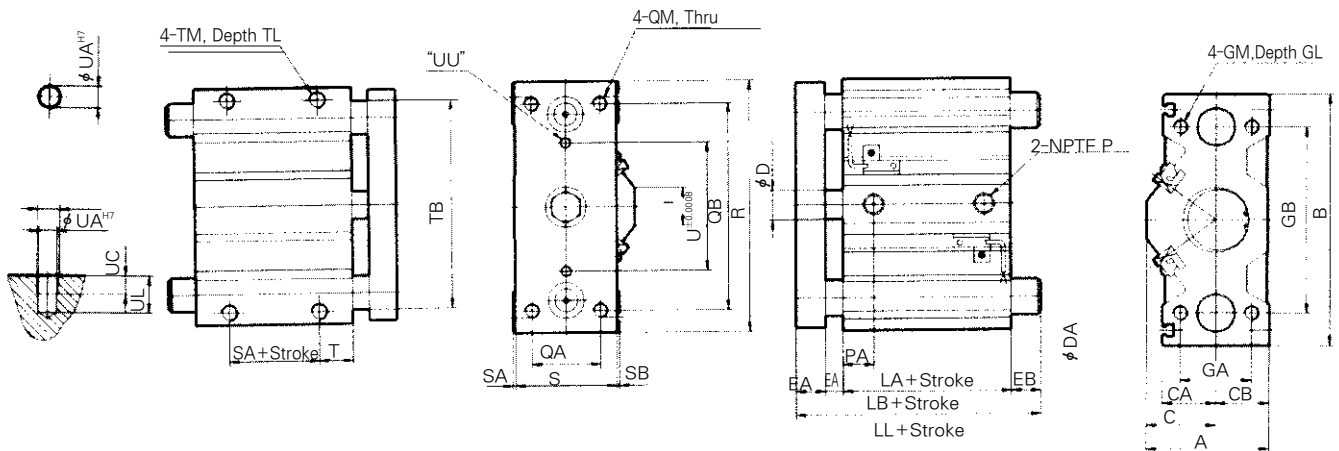
DETAIL "W"



UAG●12  
UAG●16  
UAG●20  
UAG●25

φ 32(Nom. 1<sup>1</sup>/<sub>4</sub>) ~ φ 63(Nom. 2<sup>1</sup>/<sub>2</sub>)/UAGM · UAGL

(inch)



\* For intermediate strokes. Spacers will be used.

### UAGM · UAGL Common Dimensions

(inch)

Bore Size mm (inch)	Standard Stroke (mm)	A	B	C	CA	CB	D	DA		E	EA	EB										GA	GB	GL	GM	I	LA	LB		
								UAGM	UAGL			UAGM					UAGL													
												25ST	50ST	75ST	100ST	125ST	150ST	25ST	50ST	75ST	100ST								125ST	150ST
φ32(1 <sup>1</sup> / <sub>4</sub> Nom.)	25, 50	2.09	4.49	1.06	0.98	1.02	0.63	0.79	0.63	0.47	0.39	0.91	1.62	1.82	1.82	2.02	2.02	0.17	1.63	1.83	1.83	2.61	2.61	1.50	3.15	0.79	M8×1.25	0.87	1.48	2.34
φ40(1 <sup>1</sup> / <sub>2</sub> Nom.)		2.24	4.88	1.22	0.98	1.02	0.63	0.79	0.63	0.47	0.39	0.66	1.37	1.56	1.56	1.76	1.76	-	1.37	1.57	1.57	2.36	2.36	1.50	3.54	0.79	M8×1.25	0.87	1.73	2.60
φ50(2Nom.)	75, 100	2.72	5.51	1.54	1.14	1.18	0.79	0.98	0.79	0.63	0.47	1.09	1.56	1.96	1.96	2.15	2.15	0.11	1.77	1.96	1.96	2.75	2.75	1.73	3.94	0.98	M10×1.5	0.87	1.73	2.84
φ63(2 <sup>1</sup> / <sub>2</sub> Nom.)	125, 150	3.23	5.91	1.79	1.14	1.44	0.79	0.98	0.79	0.63	0.47	0.89	1.37	1.76	1.76	1.96	1.96	-	1.57	1.77	1.77	2.56	2.56	1.73	4.33	0.98	M10×1.5	1.22	1.93	3.03

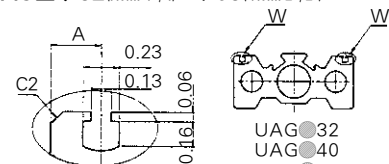
Bore Size mm (inch)	LL														P	PA	PB	QA	QB	QM	R	S	SA	SB	T	TA	TB	TL	TM	U	UA	UB	UC	UL
	UAGM							UAGL																										
	25ST	50ST	75ST	100ST	125ST	150ST	25ST	50ST	75ST	100ST	125ST	150ST																						
φ32(1 <sup>1</sup> / <sub>4</sub> Nom.)	3.26	3.96	4.16	4.16	4.36	4.36	2.52	3.97	4.17	4.17	4.96	4.96	NPT1/8"	0.49	0.35	1.18	3.78	M8×1.25	4.41	1.89	0.08	0.04	0.63	0.20	3.94	0.43	M8×1.25	1.65	0.16	0.18	0.12	0.24		
φ40(1 <sup>1</sup> / <sub>2</sub> Nom.)	3.26	3.96	4.16	4.16	4.36	4.36	2.52	3.97	4.17	4.17	4.96	4.96	NPT1/8"	0.55	0.41	1.18	4.17	M8×1.25	4.80	1.89	0.08	0.04	0.67	0.39	4.33	0.43	M8×1.25	1.97	0.16	0.18	0.12	0.24		
φ50(2Nom.)	3.93	4.40	4.79	4.79	4.99	4.99	2.95	4.60	4.80	4.80	5.59	5.59	NPT1/4"	0.55	0.43	1.58	4.72	M10×1.5	5.43	2.21	0.08	0.04	0.67	0.39	4.88	0.49	M10×1.5	2.21	0.20	0.24	0.16	0.31		
φ63(2 <sup>1</sup> / <sub>2</sub> Nom.)	3.93	4.40	4.79	4.79	4.99	4.99	2.95	4.60	4.80	4.80	5.59	5.59	NPT1/4"	0.65	0.53	1.97	5.12	M10×1.5	5.83	2.72	0.08	-	0.75	0.39	5.20	0.59	M10×1.5	2.60	0.20	0.24	0.16	0.31		

### Grooves(Except for φ 32, φ 40, φ 50, φ 63)

These grooves can be used to firmly fix the lead wires of the auto switch, and terminal boards, etc., to the main body of the cylinder.

Model	A (inch)
UAG□32	0.32
UAG□40	0.32
UAG□50	0.32
UAG□63	0.32
UAG□80	0.39
UAG□100	0.39

UAG □ φ 32(Nom. 1<sup>1</sup>/<sub>4</sub>) ~ φ 63(Nom. 2<sup>1</sup>/<sub>2</sub>)



DETAIL "W"

- UAG●32
- UAG●40
- UAG●50
- UAG●63
- UAG●80
- UAG●100

ACP

UACP

AX

AS

AM

AL  
ALX

UARD

UAQ

AJ

AG

UAG

ADM

ADR

AMR

UAMR

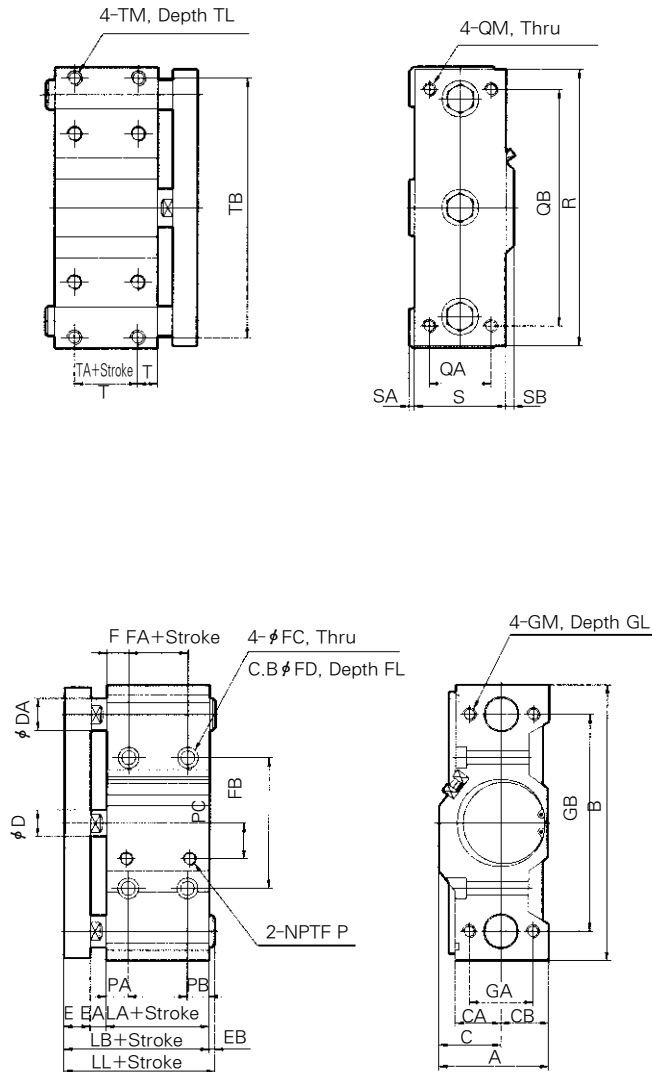
AST

W~

# Series UAG

φ 80(3.15)~φ 100(3.94)/UAGM · UAGL

(inch)



※ For intermediate strokes, spacers will be used.

## UAGM · UAGL Common Dimensions

(inch)

Bore Size mm (inch)	Standard Stroke mm	A	B	C	CA	CB	D	DA		E	EA	EB						F	FA	FB	FC	FD	FL	GA	GB	GL
								UAGM	UAGL			UAGM			UAGL											
												25	50	75,100	125,150	25,50	75,100									
φ80(3 1/4 Nom.)	20, 50, 75, 100	3.80	8.03	1.97	1.52	1.83	0.98	1.18	0.98	0.87	0.71	0.91	1.00	2.10	2.30	0.33	2.85	0.81	0.61	3.94	0.43	0.69	0.43	2.20	6.10	1.18
	125, 150	4.51	9.37	2.28	1.61	2.22	1.18	1.42	1.18	0.98	0.79	0.74	0.94	1.92	2.12	0.16	2.87	0.81	0.98	4.72	0.51	0.79	0.51	2.44	7.24	1.38
Bore Size mm (inch)	GM	LA	LB	LL						P	PA	PB	PC	QA	QB	QM	R	S	SA	SB	T	TA	TB	TL	TM	
				UAGM			UAGL																			
				25	50	75, 100	125, 150	25, 50	75, 100																	125, 150
φ80(3 1/4 Nom.)	M12×1.75	2.22	3.80	4.72	4.80	5.90	6.09	4.13	6.65	NPT3/8"	0.75	0.60	1.10	2.36	6.85	M12×1.75	7.80	3.15	0.26	0.39	0.81	0.61	7.17	0.71	M12×1.75	
	M14×2	2.60	4.37	5.11	5.31	6.29	6.49	4.53	7.24	NPT3/8"	0.89	0.74	1.38	2.52	7.87	M14×2	9.09	3.74	0.35	0.41	0.81	0.98	8.31	0.83	M14×2	
φ100(4 Nom.)	M14×2	2.60	4.37	5.11	5.31	6.29	6.49	4.53	7.24	NPT3/8"	0.89	0.74	1.38	2.52	7.87	M14×2	9.09	3.74	0.35	0.41	0.81	0.98	8.31	0.83	M14×2	



**Auto Switch Specifications**

Auto Switch Model	UW4	
Application	Relay, Sequence Control	
Voltage	DC24V	AC110V
Range of Load Current	5~40mA	5~20mA
Protection Circuit for Contact Breaker Point	None	
Internal Voltage Drop	2.4V or less	
Indicator Lamp	ON:Red light emitting diode	

- Leakage current - None
  - Response time - 1.2 ms
  - Lead Wire - Oil proof vinyl.  $\phi$  3.4, 0.2mm<sup>2</sup>, 2 wire(red, black), 0.5 m
  - Impact Resistance - 30G
  - Insulation Resistance - 50M $\Omega$  or more under the test voltage 500VDC (Between case and cable)
  - Breakdown Voltage - 1500VAC 1min(between case and cable)
  - Ambient Temperature - 40~140°F(5~60°C)
  - Protection Structure - IEC spec IP67, Water-proof(JISC0920), oil-proof.
- ※ If 3m(118 in) lead wire is required, L is put at end of model numbers.  
(Example) UW4L

ACP

UACP

AX

AS

AM

AL  
ALX

UARD

UAQ

AJ

AG

**UAG**

ADM

ADR

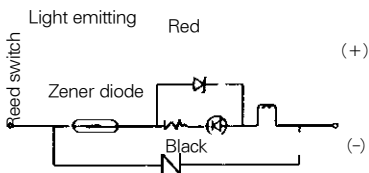
AMR

UAMR

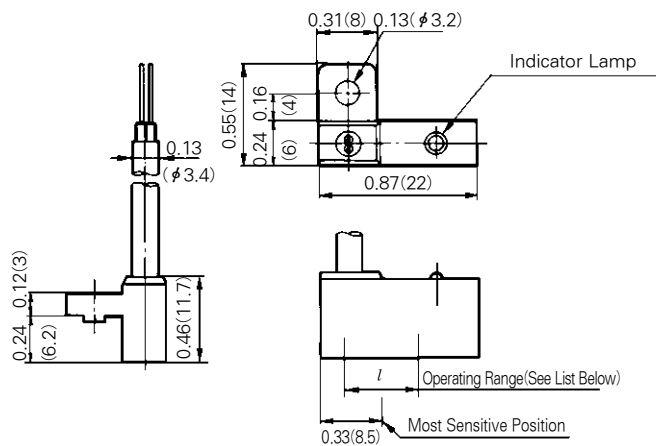
AST

W~

**Auto Switch/Internal Circuit**



**Auto Switch Dimensions** inch(mm)



**Operating Range ( l Dimensions)** inch(mm)

Series	Bore Size inch(mm)					
	$\phi$ 32(4 1/4 Nom.)	$\phi$ 40(1 1/2 Nom.)	$\phi$ 50(2 Nom.)	$\phi$ 63(2 1/2 Nom.)	$\phi$ 80(3 1/4 Nom.)	$\phi$ 100(4 Nom.)
UAG	0.43 (11)	0.43 (11)	0.39 (10)	0.47 (12)	0.47 (12)	0.51 (13)

## Specifications of Solid State Switch



### Auto Switch Specifications

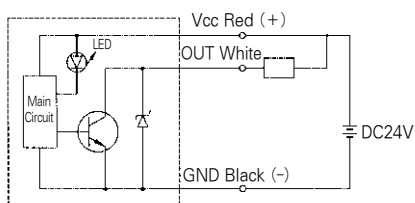
Auto Switch No.	UW1H□	UW13□
Type of Auto Switch	Solid State Switch	Reed Switch
Application	Relay, Sequence Control	
Wiring Method	3 Wire System	2 Wire System
Power Source	DC10~28V	—
Load Voltage	DC28V Less	DC24V, AC120V
Current Consumption	100mA Less	DC24V : 5~40mA AC120V : 5~20mA
Internal Voltage Drop	100mA~0.5V Less	40mA~2.4V Less
Leakage Current	10μA Less (DC24V)	
Load Current	OFF: 5mA or Less ON : 35mA or Less	—

- Operating Time : Max. 1MS
- Lead Wire : Oil resistant vinyl cord.  $\phi$ 0.13, 0.2mm<sup>2</sup>, 3 cores(red white, black), cores(red, black), 18 inch long
- Shock Resistance : 1000m/S<sup>2</sup> (102G)
- Insulation Resistance : 50M $\Omega$  or more under the test voltage 500V DC between case and cable.
- Breakdown Voltage : 1000VAC for 1min.(between lead wire and case)
- Ambient Temperature : 14~140°F (-10~60°C)
- Protection Structure : IEC Standard, water-tight and oil resisting structure

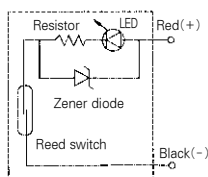
※ "L" is added to the end when the lead is 118in long.  
(ex) UW1□L

### Auto Switch Internal Circuit

#### UW1H□

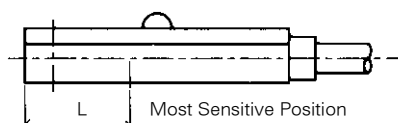
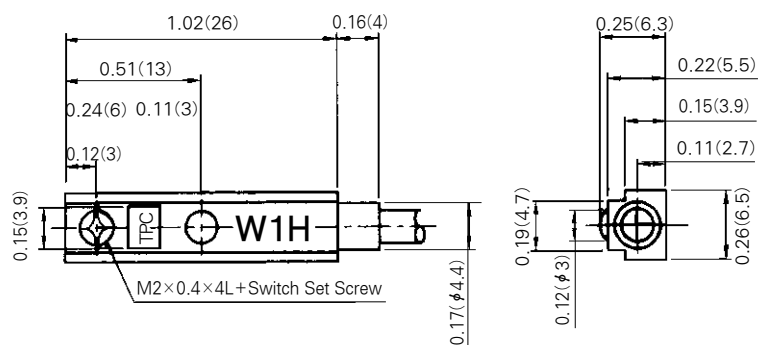


#### UW13□



### Auto Switch Dimensions

inch(mm)

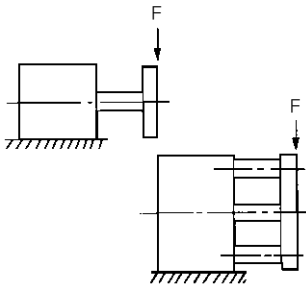


	inch(mm)	
Stations	UW1H□	UW13□
L	0.39(10)	0.59(15)
Operating Range	0.16~0.39(4~10)	0.16~0.39

Operating Conditions

Permissible Lateral Load(Ordinary-Use Load)

F(N)



Bore Size mm(inch)	Model	Stroke(mm)						
		10	20	30	40	50	75	100
φ 12(1/2 Nom.)	UAGM	26	20	18	18	17	29	25
	UAGL	24	36	29	40	34	26	20
φ 16(5/8 Nom.)	UAGM	42	34	30	28	26	39	34
	UAGL	36	54	43	58	51	37	30
φ 20(3/4 Nom.)	UAGM	—	53	47	45	42	88	76
	UAGL	—	39	64	112	100	75	62
φ 25(1 Nom.)	UAGM	—	70	61	60	54	116	100
	UAGL	—	61	50	134	120	98	81

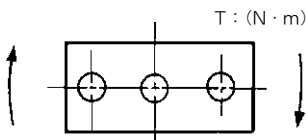
1N≒0.102kgf  
F(N)

Bore Size mm(inch)	Model	Stroke(mm)					
		25	50	75	100	125	150
φ 32(1 1/4 Nom.)	UAGM	196	167	137	108	91	76
	UAGL	88	59	275	216	239	223
φ 40(1 1/2 Nom.)	UAGM	196	167	137	108	91	76
	UAGL	88	59	275	216	239	293
φ 50(2 Nom.)	UAGM	294	255	215	176	151	130
	UAGL	137	88	392	313	313	294
φ 63(2 1/2 Nom.)	UAGM	294	255	215	176	151	130
	UAGL	137	88	392	313	313	294
φ 80(3 1/4 Nom.)	UAGM	353	304	255	206	—	—
	UAGL	235	157	863	686	—	—
φ 100(4 Nom.)	UAGM	539	470	412	343	—	—
	UAGL	470	313	1370	1070	—	—

1N≒0.102kgf

Permissible Rotary Torque of Plate

T(N · m)



Bore Size mm(inch)	Model	Stroke(mm)						
		10	20	30	40	50	75	100
φ 12(1/2 Nom.)	UAGM	0.42	0.34	0.28	0.31	0.27	0.48	0.42
	UAGL	0.51	0.88	0.75	1.06	0.96	0.78	0.64
φ 16(5/8 Nom.)	UAGM	0.76	0.64	0.54	0.52	0.47	0.73	0.62
	UAGL	0.82	1.43	1.23	1.64	1.52	1.23	1.06
φ 20(3/4 Nom.)	UAGM	—	1.14	1.02	0.98	0.80	1.90	1.65
	UAGL	—	1.14	2.03	3.40	3.19	2.65	2.32
φ 25(1 Nom.)	UAGM	—	1.79	1.58	1.53	1.38	2.96	2.57
	UAGL	—	2.10	1.86	4.74	4.46	4.01	3.53

1N · m≒10.2kgf.cm

Bore Size mm(inch)	Model	Stroke(mm)					
		25	50	75	100	125	150
φ 32(1 1/4 Nom.)	UAGM	3.92	2.94	2.45	1.96	1.47	1.03
	UAGL	1.96	0.98	5.88	4.41	5.76	5.12
φ 40(1 1/2 Nom.)	UAGM	4.41	3.43	2.94	2.45	1.84	1.35
	UAGL	2.45	1.47	6.37	5.39	6.87	6.17
φ 50(2 Nom.)	UAGM	7.35	5.88	4.90	4.41	3.31	2.41
	UAGL	3.43	2.45	10.78	8.33	9.63	8.63
φ 63(2 1/2 Nom.)	UAGM	7.84	6.37	5.39	4.90	3.60	2.59
	UAGL	3.92	2.45	11.76	9.31	9.61	8.51
φ 80(3 1/4 Nom.)	UAGM	11.76	9.80	7.84	6.86	—	—
	UAGL	9.31	5.88	31.36	24.50	—	—
φ 100(4 Nom.)	UAGM	22.54	19.60	16.66	14.70	—	—
	UAGL	21.56	13.72	63.70	49.00	—	—

1N≒0.102kgf

ACP

UACP

AX

AS

AM

AL

ALX

UARD

UAQ

AJ

AG

UAG

ADM

ADR

AMR

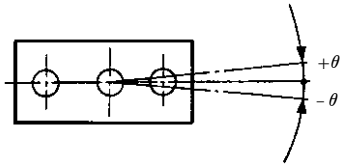
UAMR

AST

W~

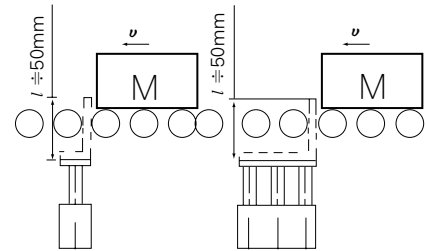
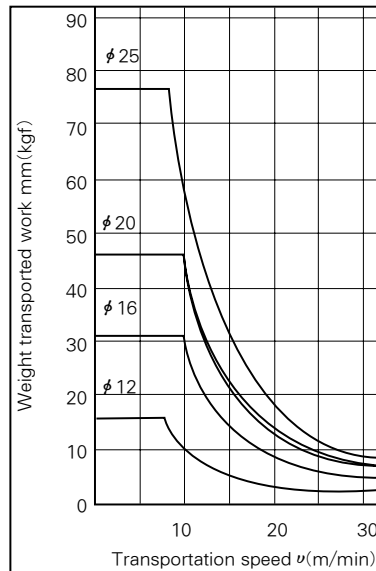
## Operating Range When Used as Stopper

**Bore Size  $\phi 12(1/2\text{Nom.}) \sim \phi 25(1\text{Nom.})/UAGM12 \sim 25(\text{Slide Bearing})$**



Bore Size mm (inch)	Non-Rotation Accuracy	
	UAGM	UAGL
$\phi 12(1/2\text{Nom.})$	$\pm 0.07^\circ$	$\pm 0.10^\circ$
$\phi 16(5/8\text{Nom.})$		
$\phi 20(3/4\text{Nom.})$	$\pm 0.06^\circ$	$\pm 0.09^\circ$
$\phi 25(1\text{Nom.})$		
$\phi 32(1 1/4\text{Nom.})$	$\pm 0.06^\circ$	$\pm 0.08^\circ$
$\phi 40(1 1/2\text{Nom.})$		
$\phi 50(2\text{Nom.})$	$\pm 0.05^\circ$	$\pm 0.06^\circ$
$\phi 63(2 1/2\text{Nom.})$		
$\phi 80(3 1/4\text{Nom.})$	$\pm 0.04^\circ$	$\pm 0.05^\circ$
$\phi 100(4\text{Nom.})$		

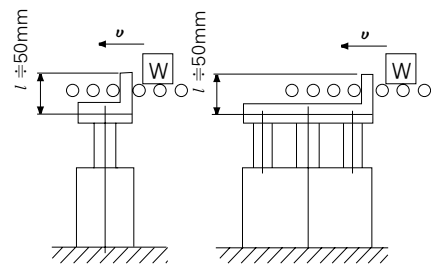
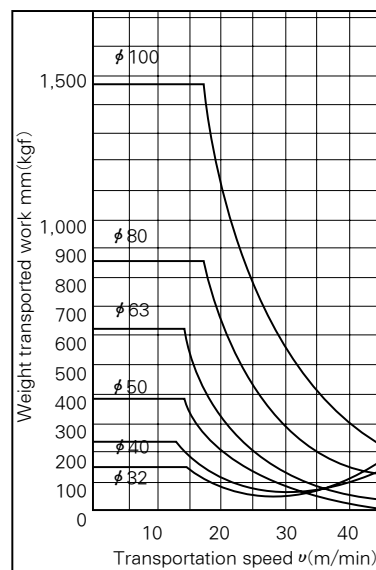
**UAGM12~25(1/2 Nom.~1 Nom.)**



※ In the machine type selection when l dimension becomes longer, select the cylinder having a sufficient I.D. of the tube.  
 Note 1) When the cylinder is to be used as a stopper use is at 30mm stroke or less.  
 Note 2) UAGL(Ball bush bearing) cannot be used as stopper.

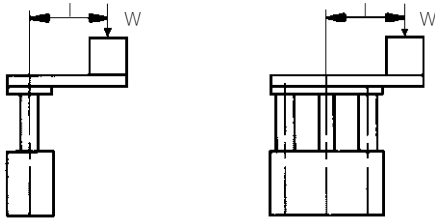
**Bore Size  $\phi 32(1 1/4\text{Nom.}) \sim \phi 100(4\text{Nom.})/UAGM32 \sim 100(\text{Slide Bearing})$**

**UAGM32~100(1 1/4 Nom.~4 Nom.)**



※ In the machine type selection, when the dimension becomes longer, select the cylinder having a sufficient I.D. of the tube.  
 Note 1) When the cylinder is to be used as a stopper use 50 MM stroke or less.  
 Note 2) UAGL(BALL BUSHING BEARING) cannot be used as stopper.

## Operating Range When Used as Lifter

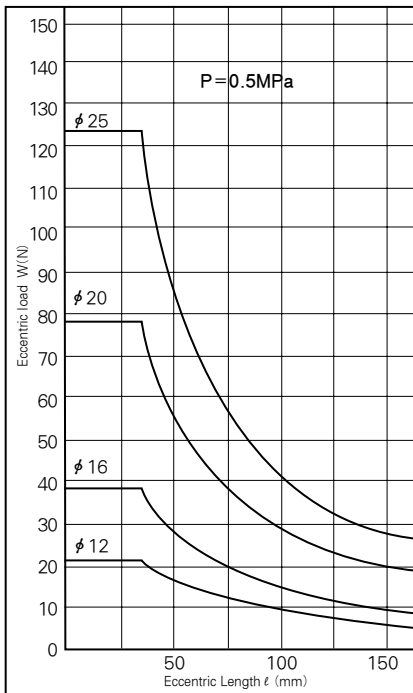


- Select the bore size so that the mass remains at or below the theoretical output (See the chart below)

Bore Size	Theoretical Output
φ12(1/2 Nom.), φ16(5/8 Nom.)	40% or below
φ20(3/4 Nom.), φ25(1 Nom.)	50% or below
φ32(1 1/4 Nom.), φ100(4 Nom.)	60% or below

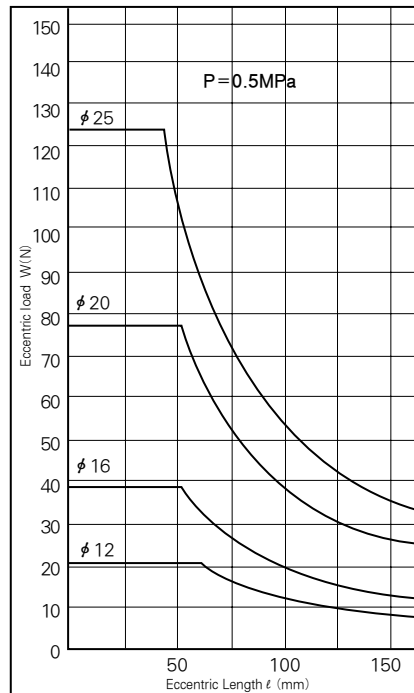
### UAGM/Slide Bearing

UAGM 12~25-□

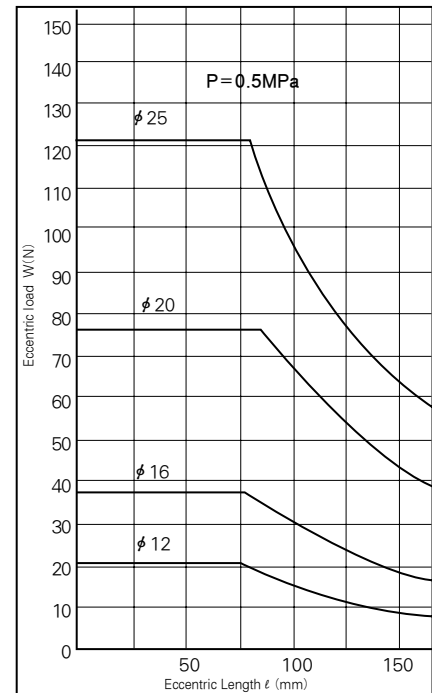


### UAGL/Ball Bush Bearing

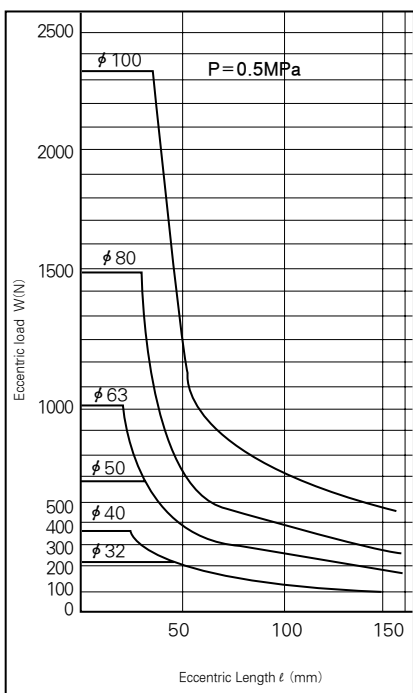
UAGL 12~25- $\frac{10}{20}$ / $\frac{30}{30}$



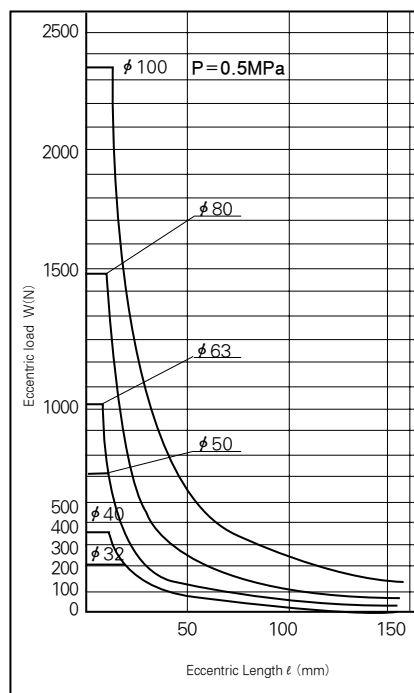
UAGL 12~25-30 more stroke



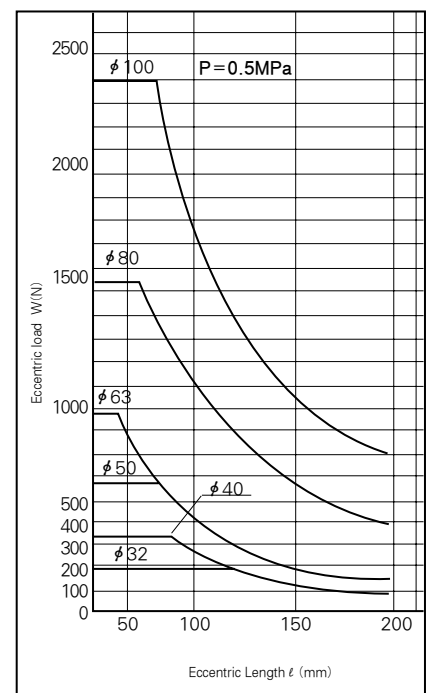
UAGM 32~100



UAGL 32~100- $\frac{25}{50}$



UAGL 32~105- $\frac{75}{100}$



ACP

UACP

AX

AS

AM

AL

ALX

UARD

UAQ

AJ

AG

**UAG**

ADM

ADR

AMR

UAMR

AST

W~